

# Mapping and Analysis Tools for Emissions on the Internet : Community Health Air Pollution Information System (CHAPIS)

Beth Schwehr  
California Air Resources Board



US EPA Emission Inventory Conference  
April 2003

# CHAPIS: Community Health Air Pollution Information System

-- Web-Mapping Tool - Prototype April 2003 --

- ◆ **Provide Interactive Maps of Air Pollution Emission Sources**
- ◆ **Include Stationary, Mobile, & Areawide Emissions**
- ◆ **Provide Maps or Tabular Information**
- ◆ **Data in Prototype are NOT REAL DATA**





# Populating Data in Stages for Quality

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- ◆ **Initial pollutants and facilities**

- Criteria Pollutants for 10 ton/year facilities
- Toxics for Refineries, Power Plants, “Hot Spots”  
Risk Assessment Facilities

- ◆ **Initial public data release ~summer 2003**

- ◆ **On-going future additions**

- Collaboration with CAPCOA and Districts



# Design Considerations

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- ◆ **Support public – diverse browsers, speeds**
  - “Thin client” : no Java, no HTML frames
  - DHTML and JavaScript used sparingly
  - Adjusts for user’s browser version, display resolution
- ◆ **GIS tools for the Internet**
  - ArcIMS using ActiveX Connector, image server
  - Custom Active Server Pages (.ASP)



Welcome to

California

HOLLYWOOD



California

Air Resources Board

CHAPIS

Community Health Air Pollution Information System



## CHAPIS - Find Your Neighborhood on the Air Pollution Map.

\* **REVIEW DRAFT \* November 2002**

Last Updated December 19, 2002

The California Air Resources Board is developing an internet-based mapping tool that allows you to zoom into a map and view sources of nearby air pollution. We call this system CHAPIS (the Community Health Air Pollution Information System). CHAPIS is about making information regarding air pollution emissions available to you in ways that are more understandable and more visual.

### What can CHAPIS do?

You can use these maps to ask questions like: What are the major sources of air pollution within five miles of my home? What are the relative contributions of mobile sources and stationary sources? What sources are near my son or daughter's school? Which chemicals are emitted? How far away do I live from an air quality monitor? All you need to answer these questions is to locate your community and answer some questions about which types of pollutants and sources you want information for. The air quality in nearly every part of California needs to be improved, and so we hope that everyone gets involved in air quality issues to help us to focus our attention on the best ways to achieve clean air.

Please keep in mind that there are limitations to CHAPIS, and ways to use it most effectively. For instance, cars and trucks are responsible for most of the air pollution in the State, and generally pose more health risks than individual industrial sites shown as points on the map. So CHAPIS has tools to show the combined contributions of cars and trucks, and industrial sites together, using what we call the Gridded Emissions features. Also, a larger number for emissions of a particular chemical may not be as important as smaller amounts of more potent chemicals. We have tried to provide helpful background information in the CHAPIS Help links, as well as on the next pages.

### What information does CHAPIS have now?

We have already placed lots of information in this first release of the CHAPIS tool for you to view, and there will be more over time. CHAPIS includes information for mobile sources (cars and trucks), area-wide sources, and stationary sources (businesses). We are phasing-in different businesses for CHAPIS to help ensure that the information we provide is as accurate as possible. We are working closely with the local air districts. To date, we have included many large facilities including power plants and refineries. Next, we hope to include metal fabrication facilities, aerospace/electronics manufacturing facilities, and chemical plants. In the future, smaller businesses such as gas stations and dry cleaners will be added.

The next pages provide tips for new users, as well as links to learn what actions are underway to reduce air pollution and toxic risks. Click on CONTINUE to learn more about what you can do in CHAPIS.

**CONTINUE**



Welcome to

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Community Health Air Pollution Information System



## More about CHAPIS

Last Updated December 19, 2002

### What are the Sources and Types of Air Pollution?

Cars and trucks ([on-road mobile](#)) are the largest sources of air pollution in California. Other sources of air pollution include trains, planes, and lawn and garden equipment ([other mobile sources](#)), refineries and power plants ([stationary sources or facilities](#)), as well as a miscellaneous category of emission sources that include consumer products like hairspray, and solvent use, such as painting ([area-wide](#)). Air pollution includes traditional smog-forming pollutants ([criteria pollutants](#)), as well as [toxic air pollutants](#). The ARB receives information on criteria pollutants every year as part of the [emission inventory](#), and information on toxic pollutants every four years as part of the air toxics "[Hot Spots](#)" program. One of the reasons to develop CHAPIS was the need to have more up-to-date information on toxic air pollutants than is sometimes collected through the "Hot Spots" program. To learn more about where the information comes from, click [here](#).

### What does it all mean?

Emissions from mobile sources (on-road and off-road sources) dominate the regional health impacts of air pollution, and contribute the most to the total amount of air pollution. An individual facility's contributions are usually much lower than the pollution from mobile sources. The amount of emissions is only one component affecting health; it is the exposure to those emissions that determines health effects. Exposure is the amount of pollution that someone actually breathes, rather than the total that is released from any one source. Exposure is determined by how far away the source is, the person's activity, what the toxicity of the pollutant is, and how it is released into the air and dispersed by the wind. The Air Resources Board works together with the 35 local [air districts](#) to keep track of all the various sources of air pollution in California. This initial prototype of CHAPIS contains a subset of facilities that include larger and higher priority facilities. This is an ongoing process where we will periodically make improvements and additions to the data. For a status of what is included to date, click [here](#).

[BEGIN MAP SEARCH NOW](#)

California Home Search Site Map Links Software Contact Us

Welcome to **California** 

 **California** Air Resources Board **CHAPIS** Community Health Air Pollution Information System 

Welcome to CHAPIS - The Community Health Air Pollution Information System Last Updated Nov. 18, 2002

The California Air Resources Board (ARB) developed CHAPIS as an Internet-based tool to provide a graphical way to look at the amounts and spatial distribution of air pollution emission sources in California. CHAPIS provides a mapping tool to analyze the spatial characteristics of California's Air Pollutant [Emission Inventory](#), for emissions of [traditional criteria air pollutants](#) and key [toxic air pollutants](#). This is a prototype, showing [selected data](#) from the ARB and [local Districts](#), for [point source](#), [mobile source](#), and [dispersed source](#) emissions data. For online help or more information about CHAPIS, click [here](#). To begin using CHAPIS, select an area of interest using the menus or map provided below.

**Select an Area of Interest:**  
Select an area of interest using the menus below or use the map, and click on the county of your choice.  
County:   
Air Basin:   
Air District:   
Region:   
**Or Enter a Zip Code:**    
\* This website is best viewed with your screen area set to 1024 x 768 px.



Website developed by VESTRA Resources Inc.  

[ARB Homepage](#)



Welcome to **California**

California

Air Resources Board

CHAPIS

Community Health Air Pollution Information System

**Welcome to CHAPIS - The Community Health Air Pollution Information System**

Last Updated Nov. 18, 2002

The California Air Resources Board (ARB) developed CHAPIS as an Internet-based tool to provide a graphical way to look at the amounts and spatial distribution of air pollution emission sources in California. CHAPIS provides a mapping tool to analyze the spatial characteristics of California's Air Pollutant [Emission Inventory](#), for emissions of [traditional criteria air pollutants](#) and key [toxic air pollutants](#). This is a prototype, showing [selected data](#) from the ARB and [local Districts](#), for [point source](#), [mobile source](#), and [dispersed source](#) emissions data. For online help or more information about CHAPIS, click [here](#). To begin using CHAPIS, select an area of interest using the menus or map provided below.

**Select an Area of Interest:**

Select an area of interest using the menus below or use the map, and click on the county of your choice.

County: Air Basin: Air District: Region: **Or Enter a Zip Code:** **Go To Zip**


\* This website is best viewed with your screen area set to  
1024 x 768 px.

**Map Loading..... Please Wait**

Website developed by VESTRA Resources Inc.


**VESTRA**[ARB Homepage](#)


A department of the California Environmental Protection Agency


**California** Air Resources Board

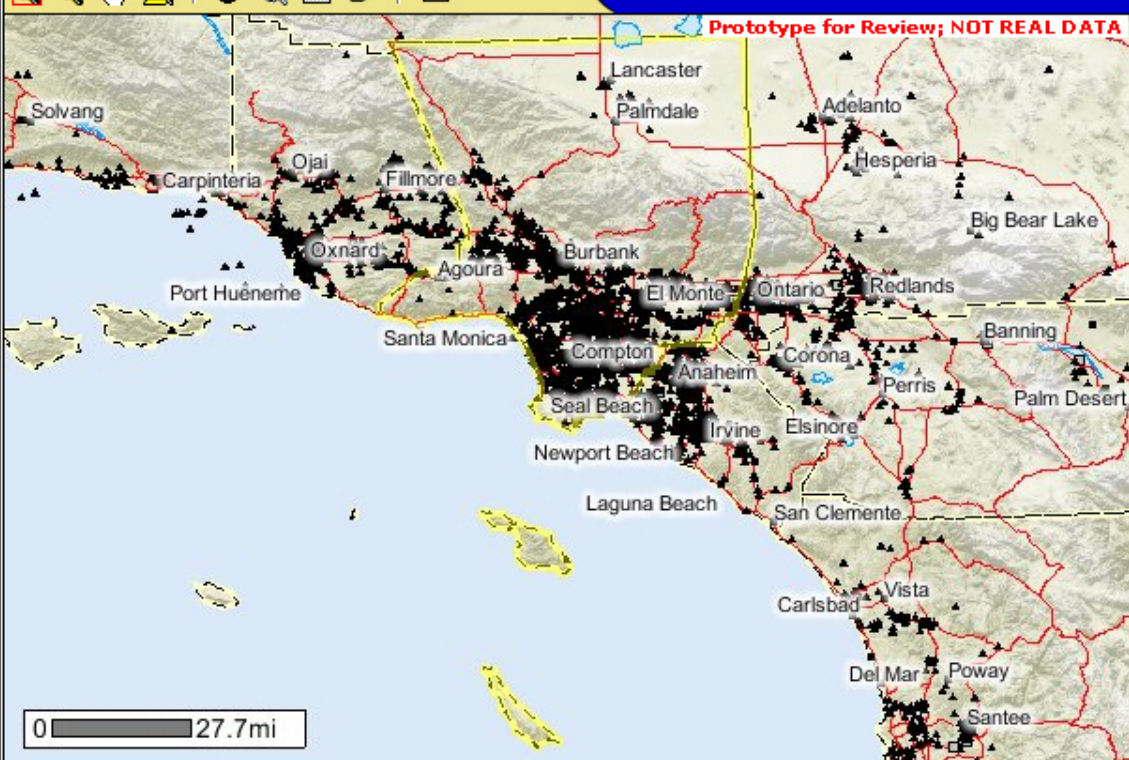
**CHAPIS** Community Health Air Pollution Information System

Click or drag a box on the map to **Zoom In**

**Navigation**  


**Analysis**  


**Overview Map**  




Prototype for Review; NOT REAL DATA

**Current Settings**  
Tool Mode: **Zoom In**  
County: Los Angeles

**Messages**

**Legend / Facilities**  
▲ Facilities  
[Show Full Legend](#)  
[Show Layer List](#)

**Combined Sources**  
Mobile, Areawide, and Stationary Totals.  
[Gridded Emissions](#) [Gridded Risk](#)

**Analysis of Sources in Map View**  
Calculate Stats for all Point Sources in the Map View  
[Calculate Stats](#)

[Print Map](#) [Get Help](#) [Start Page](#)

Map Width: 221 miles

Select pollutant: **Toxic & Criteria Pollutants** [Go](#) Select facility type: **Facility Types & SIC Codes** [Go](#)

**Map Settings**  
Identify Layer: **Emissions** Map Tip Layer: **Emissions** Buffer Radius: **2 miles**

**Jump to a new location**  
County/Air Basin/Air District: **Los Angeles** Regions: **REGIONS** Zip Code:  [Go To Zip](#)



## Toggle Overview Map On/Off

California Air Resources Board CHAPIS Community Health Air Pollution Information System

Toggle Overview Map On/Off

Navigation Analysis Overview Map

Prototype for Review; NOT REAL DATA

Map showing Los Angeles area with various cities labeled: Lancaster, Palmdale, Adelanto, Hesperia, Big Bear Lake, Ojai, Fillmore, Agoura, Burbank, El Monte, Ontario, Redlands, Port Huénerhe, Santa Monica, Compton, Anaheim, Corona, Banning, Seal Beach, Irvine, Elsinore, Newport Beach, Laguna Beach, San Clemente, Carlsbad, Vista, Del Mar, Poway, Santee, Palm Desert.

0 27.7mi

Map Width: 221 miles

Current Settings  
Tool Mode: Zoom In  
County: Los Angeles

Messages

Legend / Facilities  
▲ Facilities  
Show Full Legend  
Show Layer List

Combined Sources  
Mobile, Areawide, and Stationary Totals.  
Gridded Emissions Gridded Risk

Analysis of Sources in Map View  
Calculate Stats for all Point Sources in the Map View  
Calculate Stats

Print Map Get Help Start Page

Select pollutant: —Toxic & Criteria Pollutants— Go Select facility type: —Facility Types & SIC Codes— Go

Map Settings  
Identify Layer: Emissions Map Tip Layer: Emissions Buffer Radius: 2 miles

Jump to a new location  
County/Air Basin/Air District: Los Angeles Regions: —REGIONS— Zip Code: Go To Zip

## Choose a pollutant and zoom in

California Air Resources Board CHAPIS Community Health Air Pollution Information System

Click or drag a box on the map to Zoom In

Navigation Analysis Overview Map

1) Click to select this map-tool 2) Click or drag a box on map to ZOOM IN

Prototype for Review; NOT REAL DATA

Map Width: 221

Select pollutant: —Toxic & Criteria Pollutants—

Select facility type: —Facility Types & SIC Codes—

Map Settings

Identify Layer: Emissions Map Tip Layer: Emissions Buffer Radius: 2 miles

Jump to a new location

County/Air Basin/Air District: Los Angeles Regions: —REGIONS— Zip Code: Go To Zip

**Current Settings**  
Tool Mode: Zoom In  
County: Los Angeles

**Messages**

**Legend / Facilities**  
Facilities  
Show Full Legend  
Show Layer List

**Combined Sources**  
Mobile, Areawide, and Stationary Totals.  
Gridded Emissions Gridded Risk

**Analysis of Sources in Map View**  
Calculate Stats for all Point Sources in the Map View  
Calculate Stats  
Print Map Get Help Start Page

Map Labels: Lancaster, Palmdale, Adelanto, Hesperia, Big Bear Lake, Banning, Palm Desert, Perris, Corona, Redlands, Ontario, El Monte, Burbank, Agoura, Fillmore, Ojai, Carpinteria, Solvang, Port Huénérhe, Santa Monica, Compton, Anaheim, Irvine, Elsinore, Newport Beach, San Clemente, Carlsbad, Vista, Del Mar, Poway, Santee, San Juan Capistrano, San Diego, Escondido, Vista, Poway, Santee, San Juan Capistrano, San Diego, Escondido.



# Choose 'Gridded Emissions' to See Combined Sources

California Air Resources Board CHAPIS Community Health Air Pollution Information System

Click or drag a box on the map to **Zoom In**

Navigation Analysis Overview Map

Prototype for Review; NOT REAL DATA

Map showing Benzene emissions (Lbs./yr.) across Los Angeles County. Legend indicates three ranges: 0 - 1000, 1000 - 25000, and 25000 - 116920. Major cities labeled include Burbank, Pasadena, Monrovia, San Dimas, Ontario, Los Angeles, Whittier, Compton, Redondo Beach, Long Beach, Seal Beach, Santa Ana, and Anaheim.

Map Width: 59 miles

Select pollutant: Benzene Clear Select facility type: —Facility Types & SIC Codes— Go

Map Settings

Identify Layer: Emissions Map Tip Layer: Emissions Buffer Radius: 2 miles

Jump to a new location

County/Air Basin/Air District: Los Angeles Regions: —REGIONS— Zip Code: Go To Zip

Current Settings

Tool Mode: Zoom In  
County: Los Angeles

Messages

Legend / Facilities

Show Full Legend  
Show Layer List

Combined Sources  
Mobile, Areawide, and Stationary Totals.

**Gridded Emissions** Gridded Risk

Analysis of Sources in Map View  
Calculate Stats for all Point Sources in the Map View

Calculate Stats

Print Map Get Help Start Page

NOTE: Displayed data are not real.



# Gridded Emissions: Combines Mobile, Areawide, & Point Emissions in Cell

California Air Resources Board

CHAPIS Community Health Air Pollution Information System

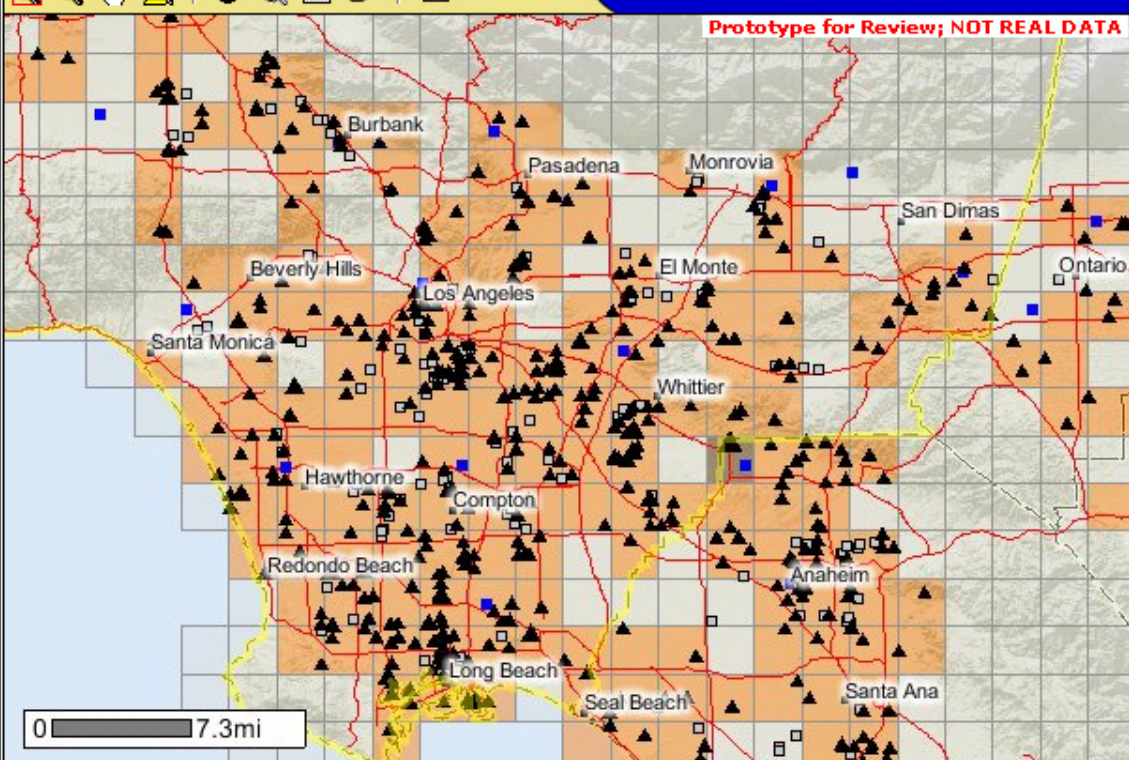
Click or drag a box on the map to **Zoom In**

Navigation

Analysis

Overview Map

Prototype for Review; NOT REAL DATA



Map Width: 59 miles

Select pollutant: Benzene Clear Select facility type: —Facility Types & SIC Codes— Go

Map Settings

Identify Layer: Gridded Emissions Map Tip Layer: Emissions

Jump to a new location

County/Air Basin/Air District: Los Angeles Regions: —REGIONS— Zip Code: Go To Zip

Click to change the visibility of gridded emissions layers

Current Settings

Tool Mode: Zoom In  
County: Los Angeles

Messages

Legend / Facilities

Benzene (Lbs./yr.)

No Value

0.000203 - 113000

113000 - 226000

226000 - 339000

Combined Sources

Mobile, Areawide, and Stationary Totals.

Gridded Emissions

Gridded Risk

Analysis of Sources in Map View

Calculate Stats for all Point Sources in the Map View

Calculate Stats

Print Map Get Help Start Page

CHAPIS Gridded Emissio...

Refresh Map

Gridded Emissions Categories

Onroad Mobile

Offroad Mobile

Industrial

Small Commercial

Areawide (Dispersed solvents, Painting, Other)

Select All

Clear All

Not real data.

Start

CHAPIS - Microsoft Internet Explorer

CHAPIS Gridded Emissions

Internet

9:45 AM

California Air Resources Board

CHAPIS  
Community Health Air Pollution Information System

Click on the map to **Identify** a feature

Navigation

Analysis

Overview Map

1) Click to select this map-tool 2) Select an IDENTIFY layer 3) Click on map to IDENTIFY a feature

0 7.3mi

Map Width: 59 miles

Select pollutant: Benzene Select facility type: —Facility Types & SIC Codes—

Map Settings

Identify Layer: Gridded Emissions

Map Tip Layer: Emissions

Jump to a new location

County/Air Basin/Air District: Los Angeles Regions: —REGIONS— Zip Code:

Current Settings

Tool Mode: Identify  
County: Los Angeles

Messages

Legend / Facilities

No Value
0.000203 - 113000
113000 - 226000
226000 - 339000

Combined Sources

Mobile, Area-wide, and Stationary Totals.

Analysis of Sources in Map View

Calculate Stats for all Point Sources in the Map View

Not real data.



Click a Grid Cell For Numeric Contributions and Total

Click on the map to **Identify** a feature

Current Settings

Tool Mode: **Identify**

CHAPIS: Identify Results - Microsoft Internet Explorer

1 feature found

Benzene(Lbs./yr.) from selected source categories:

Onroad Mobile	Offroad Mobile	Industrial	Small Commercial	Areawide (Dispersed solvents, Painting, Other)	Total
24300	5900	810	430	640	32100

NOTE: Displayed data are not real.

Map Width: 59 miles

Select pollutant: Benzene

Clear

Select facility type: —Facility Types & SIC Codes—

Go

Map Settings

Identify Layer:

Gridded Emissions

Map Tip Layer:

Emissions

Buffer Radius:

2 miles

Jump to a new location

County/Air Basin/Air District:

Orange

Regions:

—REGIONS—

Zip Code:

Go To Zip

Done

Internet

Start CHAPIS - Microsoft Internet Explorer CHAPIS: Identify Res...

10:02 AM

Turn off Gridded, Zoom in.

## Scale-dependent Layers Appear and/or Change as Zoom In

Navigation Analysis Overview Map

San Fernando

Prototype for Review; NOT REAL DATA

Burbank

Map Width: 17 miles

Select pollutant: Benzene Clear Select facility type: —Facility Types & SIC Codes— Go

Map Settings

Identify Layer: Emissions Map Tip Layer: Emissions Buffer Radius: 2 miles

Jump to a new location

County/Air Basin/Air District: Los Angeles Regions: —REGIONS—

Tool Mode: Zoom In  
County: Los Angeles

Messages

Legend / Facilities Show Full Legend

Benzene (Lbs./yr.)

- ▲ 0 - 1000
- ▲ 1000 - 25000
- ▲ 25000 - 116920

Combined Sources  
Mobile, Area-wide, and Stationary

Gridded Emissions

Analysis of Sources in Map  
Calculate Stats for all Point Sources

Calculate Stats

Print Map Get

Map Legend - Micros...

- Chrome Platers
- Cities
- ✈ Airports (Point)
- Air Monitoring Devices
- ↗ Highways
- ↗ Roads
- Major Water Bodies
- Counties

NOTE: Displayed data are not real.



# Point Layer Becomes Polygon Layer When Zoomed In

California Air Resources Board CHAPIS Community Health Air Pollution Information System

Click or drag a box on the map to **Zoom In**

**Navigation** **Analysis** **Overview Map**

**Current Settings**  
Tool Mode: **Zoom In**  
County: Los Angeles

**Messages**

**Legend / Facilities** **Show Full Legend**

Benzene (Lbs./yr.)  
▲ 0 - 1000  
▲ 1000 - 25000  
▲ 25000 - 116920

**Combined Sources**  
Mobile, Area-wide, and Stationary

**Gridded Emissions**

**Analysis of Sources in Map View**  
Calculate Stats for all Point Sources

**Calculate Stats** **Print Map** **Get Info**

**Map Legend - Micro...**

- ☐ Chrome Platers
- ☒ Cities
- ☒ Hospitals
- ☒ Schools
- ☒ Air Monitoring Devices
- ☒ Highways
- ☒ Roads
- ☒ Major Water Bodies
- ☒ Airports (Boundary)
- ☒ Parks
- ☒ Landmarks
- ☒ Colleges and Universities

**Map Settings**

Identify Layer: Emissions Map Tip Layer: Emissions Buffer Radius: 1.2mi

**Jump to a new location**

County/Air Basin/Air District: Los Angeles Regions: REGIONS

**NOTE: Displayed data are not real.**

0 1.2mi

Map Width: 9.4 miles

Select pollutant: Benzene Clear Select facility type: Facility Types & SIC Codes

Click to show the full legend

Start CHAPIS - Microsoft Internet Explorer Map Legend - Micro... Internet 10:13 AM

## Sample Neighborhood Map with Point Sources, Roads, Schools, etc. (scale-dependent)

California Air Resources Board CHAPIS Community Health Air Pollution Information System

Click or drag a box on the map to **Zoom In**

**Navigation** **Analysis** **Overview Map**

**Current Settings**  
Tool Mode: **Zoom In**  
County: Los Angeles

**Messages**

**Legend / Facilities** **Show Full Legend**

**Map Legend - Mi...**

- Chrome Platers
- Cities
- Hospitals
- Schools
- Air Monitoring Devices
- Highways
- Roads
- Major Water Bodies
- Airports (Boundary)
- Parks
- Landmarks
- Colleges and Universities

**Combined Sources**  
Mobile, Areawide, and State

**Gridded Emissions**

**Analysis of Sources in Map**  
Calculate Stats for all Point Sources

**Calculate Stats**

**Print Map** **Go**

**Map Width: 6.3 miles**

Select pollutant: **Benzene** **Clear** Select facility type: **—Facility Types & SIC Codes—**

**Map Settings**

**Identify Layer:** **Emissions** **Map Tip Layer:** **Emissions**

**Jump to a new location**

County/Air Basin/Air District: **Los Angeles** Regions: **—REGIONS—** Zip Code: **Go To Zip**

**Not Real Data**

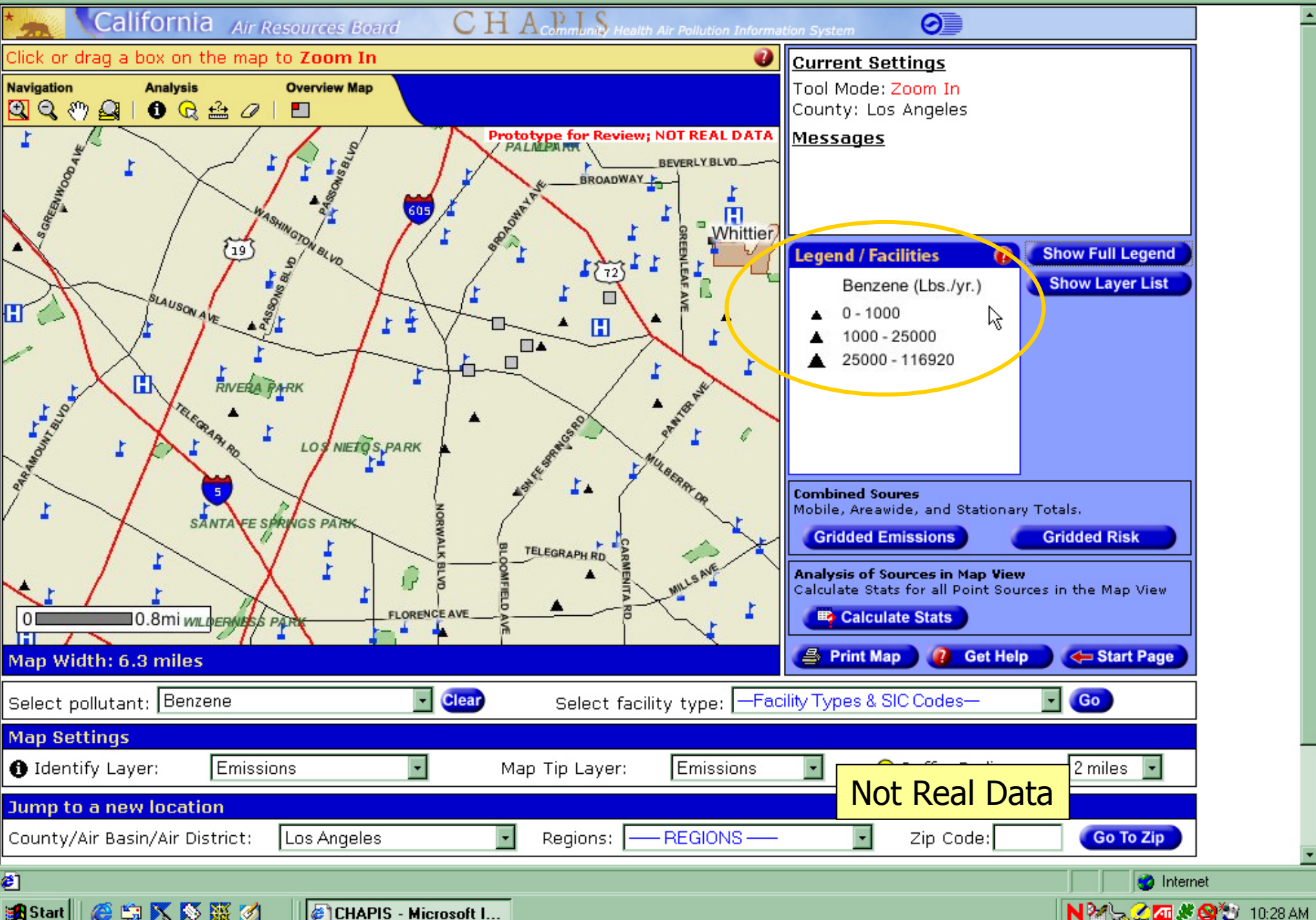
Click to show the full legend

Internet

Start CHAPIS - Microsoft Internet Explorer Map Legend - Micros...

10:28 AM





# Hover label tool gives facility name immediately

California Air Resources Board CHAPIS Community Health Air Pollution Information System

Click or drag a box on the map to **Zoom In**

**Navigation** **Analysis** **Overview Map**

**ABC COMPANY INC (3240788)**

**Prototype for Review NOT REAL DATA**

**Current Settings**  
Tool Mode: **Zoom In**  
County: Los Angeles

**Messages**

**Legend / Facilities** **Show Full Legend** **Show Layer List**

Benzene (Lbs./yr.)

- ▲ 0 - 1000
- ▲ 1000 - 25000
- ▲ 25000 - 116920

**Combined Sources**  
Mobile, Areawide, and Stationary Totals.

**Gridded Emissions** **Gridded Risk**

**Analysis of Sources in Map View**  
Calculate Stats for all Point Sources in the Map View

**Calculate Stats**

**Print Map** **Get Help** **Start Page**

Map Width: 6.3 miles

Select pollutant: Benzene **Clear** Select facility type: —Facility Types & SIC Codes— **Go**

**Map Settings**

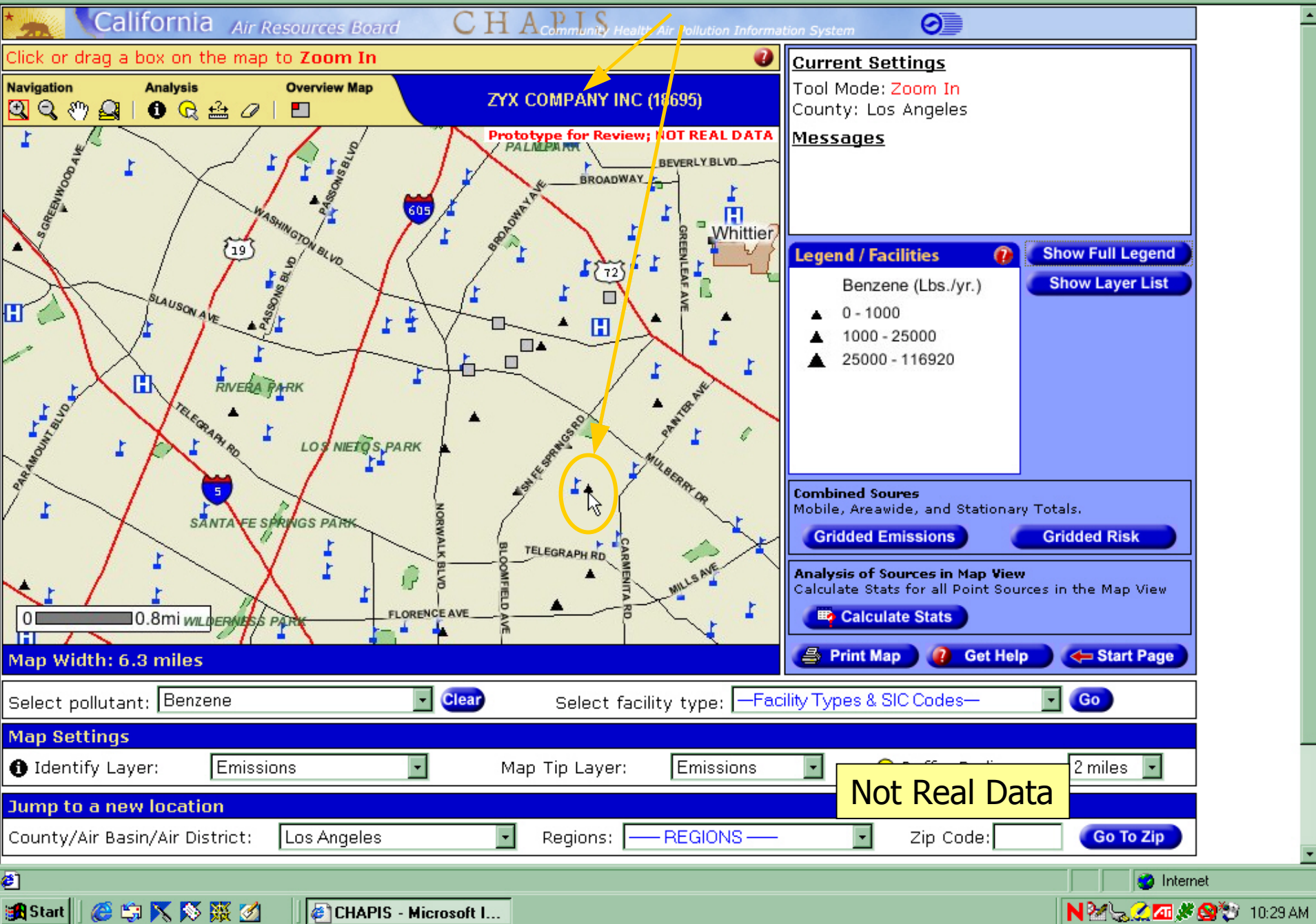
**Identify Layer:** Emissions **Map Tip Layer:** Emissions **2 miles**

**Jump to a new location**

County/Air Basin/Air District: Los Angeles **Regions:** —REGIONS— **Zip Code:** **Go To Zip**

**Not Real Data**









# Calculate Summary for Facilities in the Entire Map View

California Air Resources Board CHAPIS Community Health Air Pollution Information System

Click or drag a box on the map to **Zoom In**

**Navigation** **Analysis** **Overview Map**

**Prototype for Review; NOT REAL DATA**

**Current Settings**  
Tool Mode: **Zoom In**  
County: Los Angeles

**Messages**

**Legend / Facilities**  
Benzene (Lbs./yr.)  
▲ 0 - 1000  
▲ 1000 - 25000  
▲ 25000 - 116920

**Combined Sources**  
Mobile, Areawide, and Stationary Totals.  
**Gridset Emissions** **Gridset Risk**

**Analysis of Sources in Map View**  
Calculate Stats for all Point Sources in the Map View  
**Calculate Stats**

**Map Width: 6.3 miles**

Select pollutant: Benzene **Clear** Select facility type: —Facility Types & SIC Codes— **Go**

**Map Settings**  
Identify Layer: Emissions Map Tip Layer: Emissions 2 miles

**Jump to a new location**  
County/Air Basin/Air District: Los Angeles Regions: —REGIONS— Zip Code: **Go To Zip**

**Not Real Data**

CHAPIS - Microsoft Internet Explorer

File Edit View Favorites Tools

CHAPIS: Calculate Sta

File Edit View Favor

Sorted List and Statistics (Total, Max)  
for Facilities in the Map View

Favorites History Mail

Search Favorites History

Click o

Navigation

Map V

Select

Map S

Info

22 Benzene industrial (point) emissions sources found

Maximum Value: 3700 Lbs./yr.

Average Value: 252 Lbs./yr.

Total Emissions: 5550 Lbs./yr.

Note: Data and summary statistics in this table are for point (industrial) sources only.

Use the "Gridded Emissions" option to see additional types of sources.

Facil ID	Company	Address	Benzene (Lbs./yr)	SIC Code
3240788	<a href="#">ABC COMPANY INC</a>	200000 A ST SANTA FE SPRINGS, CA 90670	3700	13 - Oil and Gas Extraction
8748	<a href="#">XYZ COMPANY INC</a>	300000 B ST PICO RIVERA, CA 90660	788	37 - Transportation Equipment
2289688	<a href="#">EFG COMPANY INC</a>	4000000 Q ST PICO RIVERA, CA 90660	746	37 - Transportation Equipment
46500	<a href="#">IJK COMPANY INC</a>	2000000 J ST SANTA FE SPRINGS, CA 90670	160	13 - Oil and Gas Extraction
24488	<a href="#">GGG COMPANY INC</a>	600000 G ST SANTA FE SPRINGS, CA 93003	64.9	13 - Oil and Gas Extraction
23419	<a href="#">POR COMPANY INC</a>	1000000 F ST PICO RIVERA, CA 90660	32	49 - Electric,Gas,Sanitary Services
23351	<a href="#">CCC COMPANY INC</a>	400000 C ST LOS ANGELES, CA 90040	2	Allied Products
19251	<a href="#">LMN COMPANY INC</a>	5000000 T ST WHITTIER, CA 90601	23.5	34 - Fabricated Metal Products
18695	<a href="#">ZYX COMPANY INC</a>	3000000 Z ST	6.57	32 - Stone,Clay, and Glass Products

Not real data.

http://www.arb.ca.gov/app/emsinv/facinfo/facdet.php?co\_19&ab\_3240788&dis\_3240788&dbyr=1996

Internet

Jump to a new location

County/Air Basin/Air District: Los Angeles Regions: — REGIONS — Zip Code: Go To Zip

Start

CHAPIS - Microsoft Internet Explorer

CHAPIS: Calculate St...

4:41 PM



## Link to Existing Database Query Tools for Facility Data

Facility Detail

File Edit View Favorites Tools Help

Back

Forward

Stop

Refresh

Home

Search

Favorites

History

## Facility Information

Facility Name :	ABC COMPANY INC.	District :	SOUTH COAST AQMD
Street :	10735 S SHOEMAKER AVE		
City :	SANTA FE SPRINGS	Zip :	90670
Contact Person :	ENVIRONMENTAL ENG	Phone :	(310) 903-2725
Facility SIC :	1311		

## Mailing address

Company Name :	ABC COMPANY INC.		
Address :	10735 SOUTH SHOEMAKER AVENUE		
City :	SANTA FE SPRINGS	St :	CA
		Zip :	90670

For most recent data, please contact the Air District

[\[Start a new query\]](#) [\[Prioritization & Risk\]](#)

	Pollutant	Emissions	Unit
Data from 1996	TOG	21.8	Tons/Yr
	ROG	13.9	Tons/Yr
TOXIC DATA MAY COME FROM VARIOUS YEARS			
	Ammonia	587.4	Lbs/Yr
	Benzene	3702.4	Lbs/Yr
	Naphthalene	2398.4	Lbs/Yr

Not real data.

Internet

# Link to Reported Risk Assessment if Available

## Facility Risk Information

Facility Name : ABC COMPANY INC.

District : [SOUTH COAST AQMD](#)

Street : 10735 S SHOEMAKER AVE

City : SANTA FE SPRINGS

Zip : 90670

*For most recent data, please contact the Air District*

[\[Start a new query\]](#)

Not real data

## Facility Health Risk and Score Data

<a href="#">Facility Prioritization Score</a>	Inventory Year	Value	<a href="#">District Prioritization Threshold</a>	
			<a href="#">High</a>	<a href="#">Low</a>
<a href="#">Cancer</a>	1991	182.53	10	1
<a href="#">Non-Cancer Chronic</a>	1991	6.92	10	1
<a href="#">Non-Cancer Acute</a>	1991	1.07	10	1

<a href="#">Health Risk Assessment</a>	Inventory Year	Value	<a href="#">District Notification Level</a>	<a href="#">District RRAP Level</a>
<a href="#">Cancer Risk</a>	1991	.79	>=10	>100
<a href="#">Non-Cancer Chronic Hazard Index</a>	1991	.04	>1; lead THI >.5	>5
<a href="#">Non-Cancer Acute Hazard Index</a>	1991	.01	>1; lead THI >.5	>5



# Clear the Selected Pollutant - More Sources Appear

California Air Resources Board CHAPIS Community Health Air Pollution Information System

Click or drag a box on the map to **Zoom In**

**Navigation** **Analysis** **Overview Map**

Prototype for Review; NOT REAL DATA

**Current Settings**  
Tool Mode: **Zoom In**  
County: Los Angeles

**Messages**

**Legend / Facilities** **Show Full Legend** **Show Layer List**  
▲ Facilities

**Combined Sources**  
Mobile, Areawide, and Stationary Totals.  
**Gridded Emissions** **Gridded Risk**

**Analysis of Sources in Map View**  
Calculate Stats for all Point Sources in the Map View  
**Calculate Stats** **Print Map** **Get Help** **Start Page**

Map Width: 6.3 miles

Select pollutant: **—Toxic & Criteria Pollutants—** **Go** Select facility type: **—Facility Types & SIC Codes—** **Go**

**Map Settings**  
**Identify Layer:** **Emissions** **Map Tip Layer:** **Emissions** **Buffer Radius:** **1 mile**

**Jump to a new location**  
**County/Air Basin/Air District:** **Los Angeles** **Regions:** **—REGIONS—** **Zip Code:** **Go To Zip**

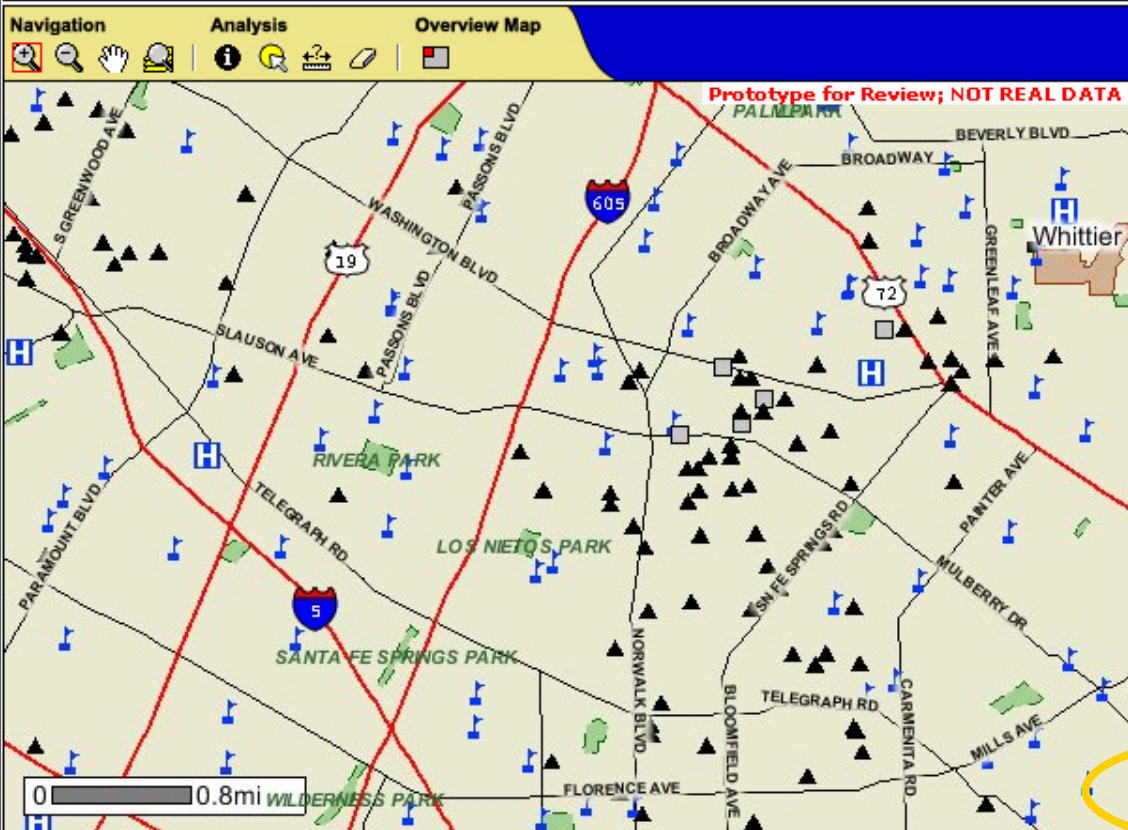
Click to calculate statistics

CHAPIS - Microsoft I...

NOTE: Displayed data are not real.

# Special Features of the Calculate Statistics Function

Click or drag a box on the map to zoom in



## Current Settings

Tool Mode: **Zoom In**  
County: Los Angeles

## Messages

## Legend / Facilities

▲ Facilities

Show Full Legend

Show Layer List

## Combined Sources

Mobile, Areawide, and Stationary Totals.

Gridded Emissions

Gridded Risk

## Analysis of Sources in Map View

Calculate Stats for all Point Sources in the Map View

**Calculate Stats**

Print Map

Get Help

Start Page

Select pollutant: **Toxic & Criteria Pollutants** Go

Select facility type: **Facility Types & SIC Codes** Go

## Map Settings

Identify Layer: **Emissions** Map Tip Layer: **Emissions** Buffer Radius: **1 mile**

## Jump to a new location

County/Air Basin/Air District: **Los Angeles** Regions: **REGIONS** Zip Code: Go To Zip

Click to calculate statistics

NOTE: Displayed data are not real.



# Special Features of the Calculate Statistics Function

## A. Tells User Immediately if Need to Zoom In More

Click or drag a box on the map to zoom in

Navigation

Legend / Facilities

- ▲ Facilities

Show Full Legend

Show Layer List

Gridded Emissions

Gridded Risk

Analysis of Sources in Map View

Calculate Stats for all Point Sources in the Map View

Calculate Stats

Print Map

Get Help

Start Page

Map Width: 6.3 miles

Select pollutant:  Go

Select facility type:  Go

Map Settings

Identify Layer:  Map Tip Layer:  Buffer Radius:

Jump to a new location

County/Air Basin/Air District:  Regions:  Zip Code:  Go To Zip

Microsoft Internet Explorer

There are over 100 facilities in the current extent. Please zoom in further to calculate statistics.

OK

NOTE: Displayed data are not real.

## B. If No Pollutant Selected, Calc Stat Gives Summary for All Chemicals

59 industrial (point) emissions sources found

Pollutant	Units	Total	Average	Maximum	Cancer-Potency Weighted Pounds
<a href="#">Ammonia</a>	Lbs./yr.	18400	311	7910	N/A
<a href="#">Arsenic (Inorganic) Compounds</a>	Lbs./yr.	0.00667	0.000113	0.00667	136
<a href="#">Asbestos and Related Fibers</a>	Lbs./yr.	0	0	0	0
<a href="#">Benzene</a> ←	Lbs./yr.	76.8	1.3	30.6	13100
<a href="#">Beryllium Compounds</a>	Lbs./yr.	0.000301	0.00000509	0.0003	4.29
<a href="#">1,3-Butadiene</a>	Lbs./yr.	0	0	0	0
<a href="#">Cadmium Compounds</a>	Lbs./yr.	0.00232	0.0000393	0.00227	59.2
<a href="#">Carbon Tetrachloride</a>	Lbs./yr.	0	0	0	0
<a href="#">Carbonyl Sulfide</a>	Lbs./yr.	0.61	0.0103	0.61	N/A
<a href="#">Chloroform</a>	Lbs./yr.	26.2	0.444	26.2	846
<a href="#">Chromium+6 Compounds</a>	Lbs./yr.	1.43	0.0242	0.928	1240000
<a href="#">1,2-Dibromoethane (EDB)</a>	Lbs./yr.	0	0	0	0
<a href="#">p-Dichlorobenzene</a>	Lbs./yr.	0	0	0	0
<a href="#">1,2-Dichloroethane</a>	Lbs./yr.	0	0	0	N/A

Internet miles

Jump to a new location

County/Air Basin/Air District:  Regions:

NOTE: Displayed data are not real.

http://www.arb.ca.gov/toxics/tac/factshts/benzene.pdf - Microsoft Internet Explorer


File Edit View Favorites Tools Help

BENZENE

Identified as a toxic air contaminant under California's air toxics program (AB 1807) in 1984.

CAS Registry Number: 71-43-2

Molecular Formula: C<sub>6</sub>H<sub>6</sub>



Benzene is a clear, colorless, volatile, highly flammable liquid with a characteristic sickly, sweet odor. It is chemically characterized by six carbon atoms linked in a planar symmetrical hexagon (equal C-C bond lengths) with each carbon atom attached to a hydrogen atom. The electronic structure of that geometry makes benzene unusually stable. It does react with other compounds mainly by the substitution of a hydrogen atom (U.S. EPA, 1993b). Benzene is soluble in water and miscible with alcohol, chloroform, ether, carbon disulfide, carbon tetrachloride, glacial acetic acid, acetone, and oils (Merck, 1989).

Physical Properties of Benzene

Synonyms: benzol; benzole; bicarburet of hydrogen; pyrobenzol; cyclohexatriene; annulene; coal naphtha; phene; phenyl hydride

Molecular Weight:	78.11
Boiling Point:	80.1 °C
Melting Point:	5.5 °C
Flash Point:	-11.1 °C (closed cup)
Vapor Pressure:	100 mm Hg at 26.1 °C
Vapor Density:	2.7 (air = 1)
Density/Specific Gravity:	0.8787 at 15/4 °C
Henry's Law Constant, water:	0.0055 atm-m <sup>3</sup> /mole at 25 °C
Log Octanol/Water Partition Coefficient:	2.13
Conversion Factor:	1 ppm = 3.19 mg/m <sup>3</sup>

(Howard, 1990; HSDB, 1995; Merck, 1989; Sax, 1989; U.S. EPA, 1994a)

SOURCES AND EMISSIONS

A. Sources

The predominant sources of total benzene emissions in the atmosphere are gasoline fugitive emissions and gasoline motor vehicle exhaust. Mobile sources contribute 85 percent and

106%

1 of 6

8.5 x 11 in

Start

CHAPIS - Microsoft Internet Explorer

CHAPIS: Calculate Statistics

http://www.arb.ca.gov/

11:08 AM

CHAPIS - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Back Forward Stop Refresh Home Search Favorites History Mail

CHAPIS: Calculate Statistics Results - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Back Forward Stop Refresh Home

59 industrial (point) emissions sources found

Pollutant	Units	Total	Average	Maximum	Cancer-Potency Weighted Pounds
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<a href="#">Asbestos and Related Fibers</a>	Lbs./yr.	0	0	0	0
<a href="#">Benzene</a>	Lbs./yr.	76.8	1.3	30.6	13100
<a href="#">Beryllium Compounds</a>	Lbs./yr.	0.000301	0.00000509	0.0003	4.29
<a href="#">1,3-Butadiene</a>	Lbs./yr.	0	0	0	0
<a href="#">Cadmium Compounds</a>	Lbs./yr.	0.00232	0.0000393	0.00227	59.2
<a href="#">Carbon Tetrachloride</a>	Lbs./yr.	0	0	0	0
<a href="#">Carbonyl Sulfide</a>	Lbs./yr.	0.61	0.0103	0.61	N/A
<a href="#">Chloroform</a>	Lbs./yr.	26.2	0.444	26.2	846
<a href="#">Chromium+6 Compounds</a>	Lbs./yr.	1.43	0.0242	0.928	1240000
<a href="#">1,2-Dibromoethane (EDB)</a>	Lbs./yr.	0	0	0	0
<a href="#">p-Dichlorobenzene</a>	Lbs./yr.	0	0	0	0
<a href="#">1,2-Dichloroethane</a>	Lbs./yr.	0	0	0	N/A

Click on map to zoom in

Navigation

Map View

Select

Map S

0 miles

Jump to a new location

County/Air Basin/Air District: Los Angeles Regions: REGION

Full Legend

Layer List

Risk

Map View

Start Page

Go

Internet

miles

NOTE: Displayed data are not real.



# On-Line Help and Explanation of Terms

## Cancer Potency Weighted Pounds

Potn-Wtd Lbs = Emissions of Pollutant (in lbs) x Cancer Potency Weight Index for that Pollutant x 1700.

(The 1700 is a "normalization constant" derived using health- conservative modeling assumptions to create a "score" scale where a resultant "score" of "~10 or more" starts to be potentially important from a public health perspective).

## Criteria Air Pollutant

The staff at the California Air Resources Board compiles data to create the criteria pollutant emission inventory which includes information on the emissions of reactive organic gases (ROG), oxides of nitrogen (NOx), oxides of sulfur (SOx), carbon monoxide (CO), and particulate matter (PM10).

## Dispersed Sources of Emissions (Area-wide sources)

Area-wide sources include widely dispersed sources such as the use of consumer products (hairspray, home automotive products, home cleaners, etc.) and other dispersed solvent uses, such as painting (sometimes referred to as architectural coating). Area-wide emission sources are generally estimated at a county-level of resolution, then spatially aggregated to smaller areas using spatial allocation factors that are based on a surrogate, such as the distribution of population used to allocate consumer product usage.

## Emission Inventory

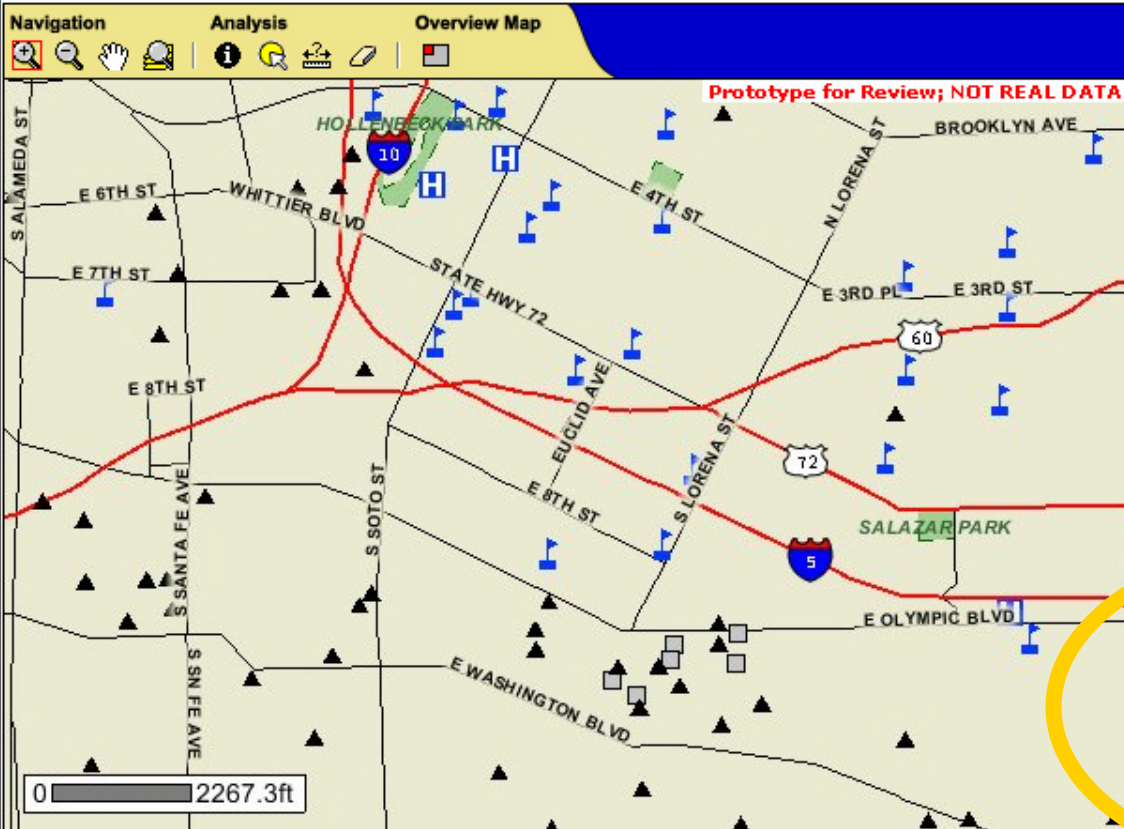
The California Air Resources Board has collected information on emissions from air pollution sources since 1969. This information is periodically compiled by State and local air pollution control agencies to create an emission inventory; an important building block in the development of the State's air pollution control program.

The emission inventory includes information on the emissions of criteria and toxic air pollutants. Criteria pollutants include reactive organic gases (ROG), oxides of nitrogen (NOx), oxides of sulfur (SOx), carbon monoxide (CO), and particulate matter (PM10). Toxic data available within CHAPIS were collected in response to [Assembly Bill \(AB\) 2588 \(Connelly\), the Air Toxics "Hot Spots" Information and Assessment Act](#). Criteria and toxic data are gathered on an ongoing basis and stored in the California Emission Inventory Development and Reporting System (CEIDARS).

## Mobile Sources of Emissions

## C. Developing Calculate Stat Feature for Combined Sources (mockup)

Click or drag a box on the map to **Zoom In**



### Current Settings

Tool Mode: **Zoom In**  
County: Los Angeles

### Messages

59 industrial (point) emissions sources found

### Legend / Facilities

▲ Facilities

Show Full Legend

Show Layer List

Not Real Data

### Combined Sources

Mobile, Areawide, and Stationary Totals.

Gridded Emissions

Gridded Risk

### Analysis of Sources in Map View

Calculate Stats for all Point Sources in the Map View

Calculate Stats

Print Map

Get Help

Start Page

Map Width: 3.4 miles

Select pollutant: **Toxic & Criteria Pollutants** Go

Select facility type: **Facility Types & SIC Codes** Go

### Map Settings

Identify Layer: Emissions

Map Tip Layer: Emissions

Buffer Radius: 2 miles

### Jump to a new location

County/Air Basin/Air District: Los Angeles

Regions: **REGIONS**

Zip Code: Go To Zip

## C. Developing Calculate Stat Feature for Combined Sources (mockup)

CHAPIS: Calculate Statistics Results - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Back

Forward

Stop

Refresh

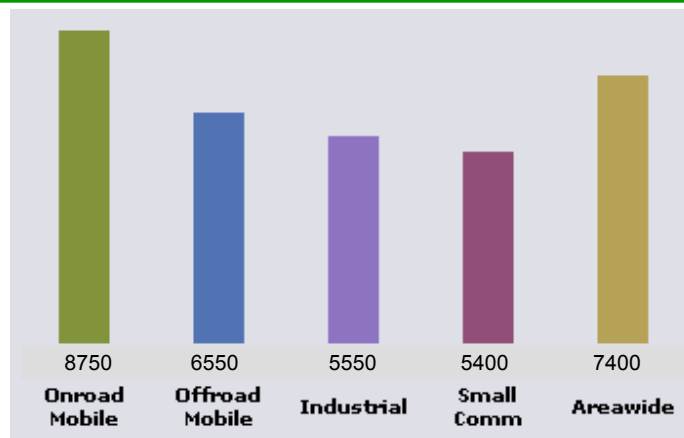
Home

Search

Favorites

History

### Combined Sources Within Map View:



### 22 Benzene industrial (point) emissions sources found

Maximum Value: 3700 Lbs./yr. **Note:** Data and summary statistics in this table are for point (industrial) sources only.  
 Average Value: 252 Lbs./yr.  
 Total Emissions: 5550 Lbs./yr.

Facil ID	Company	Address	Benzene (Lbs./yr)	SIC Code
3240788	<a href="#">ABC COMPANY INC</a>	200000 A ST SANTA FE SPRINGS, CA 90670	3700	13 - Oil and Gas Extraction
8748	<a href="#">XYZ COMPANY INC</a>	300000 B ST PICO RIVERA, CA 90660	788	37 - Transportation Equipment
2289688	<a href="#">EFG COMPANY INC</a>	4000000 Q ST PICO RIVERA, CA 90660	746	37 - Transportation Equipment
46500	<a href="#">IJK COMPANY INC</a>	2000000 J ST SANTA FE SPRINGS, CA 90670	Not real data.	s Extraction
24488	<a href="#">GGG COMPANY INC</a>	600000 G ST SANTA FE SPRINGS, CA 93003		13 - Oil and Gas Extraction



# Measure Distances with Circles (or Lines)

California Air Resources Board CHAPIS Community Health Air Pollution Information System

Click on the map to create a **circular buffer**

**Navigation** **Analysis** **Overview Map**

1) Click to select this map-tool 2) Select a CIRCLE size 3) Click on map to draw a CIRCLE

**Current Settings**  
Tool Mode: **Buffer**  
County: Los Angeles

**Messages**  
22 Benzene industrial (point) emissions sources found

**Legend / Facilities**  
Benzene (Lbs./yr.)  
▲ 0 - 1000  
▲ 1000 - 25000  
▲ 25000 - 116920

**Combined Sources**  
Mobile, Areawide, and Stationary Totals.  
**Gridded Emissions** **Gridded Risk**

**Analysis of Sources in Map View**  
Calculate Stats for all Point Sources in the Map View  
**Calculate Stats**

**Map Width: 6.3 miles**

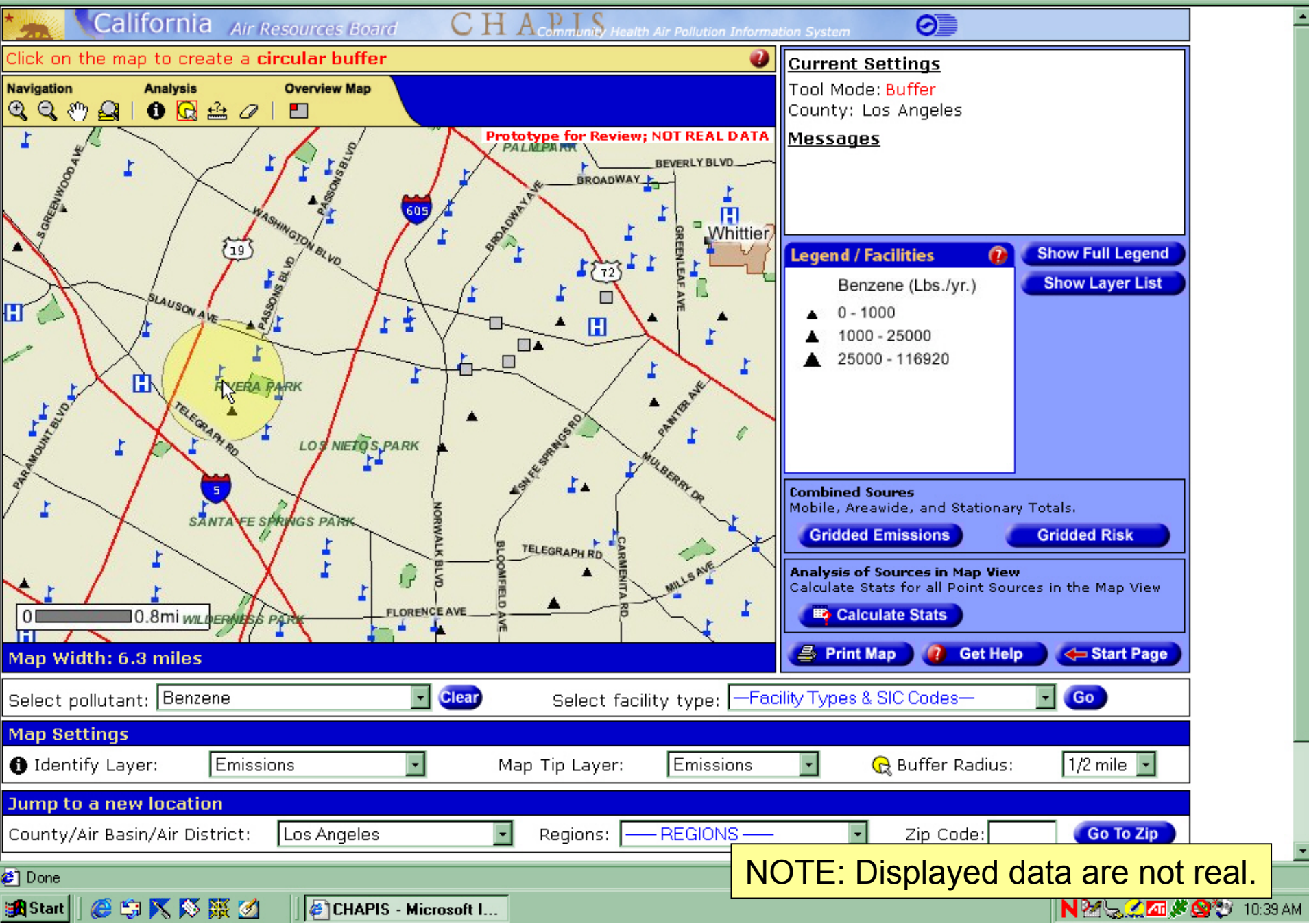
Select pollutant: Benzene **Clear** Select facility type: —Facility Types & SIC Codes— **Go**

**Map Settings**  
Identify Layer: Emissions Map Tip Layer: Emissions Buffer Radius: 1/2 mile

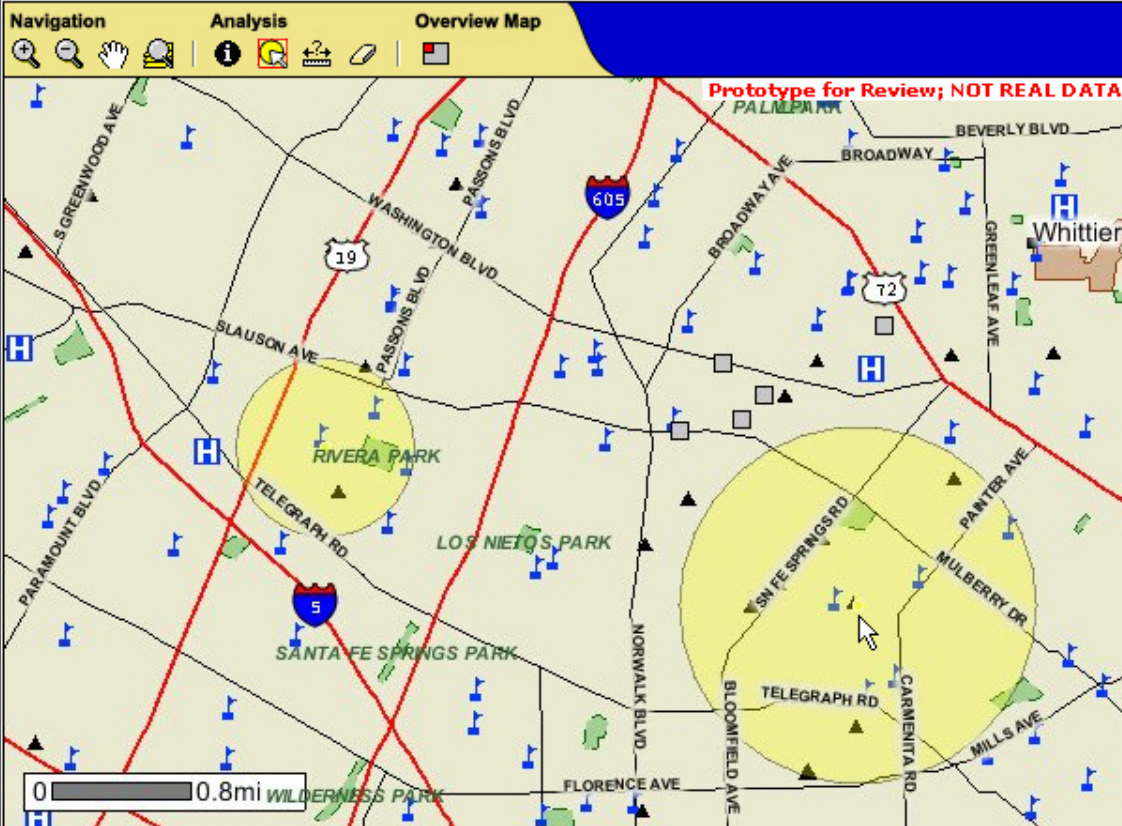
**Jump to a new location**  
County/Air Basin/Air District: Los Angeles Regions: —REGIONS— Zip Code: **Go To Zip**

NOTE: Displayed data are not real.





Click on the map to create a circular buffer



Map Width: 6.3 miles

## Current Settings

Tool Mode: Buffer

County: Los Angeles

## Messages

## Legend / Facilities

Benzene (Lbs./yr.)

- ▲ 0 - 1000
- ▲ 1000 - 25000
- ▲ 25000 - 116920

Show Full Legend

Show Layer List

## Combined Sources

Mobile, Areawide, and Stationary Totals.

Gridded Emissions

Gridded Risk

## Analysis of Sources in Map View

Calculate Stats for all Point Sources in the Map View

Calculate Stats

Print Map

Get Help

Start Page

Select pollutant: Benzene

Clear

Select facility type: Facility Types &amp; SIC Codes

Go

## Map Settings

Identify Layer:

Emissions

Map Tip Layer:

Emissions

Buffer Radius:

1 mile

## Jump to a new location

County/Air Basin/Air District: Los Angeles

Regions:

REGIONS

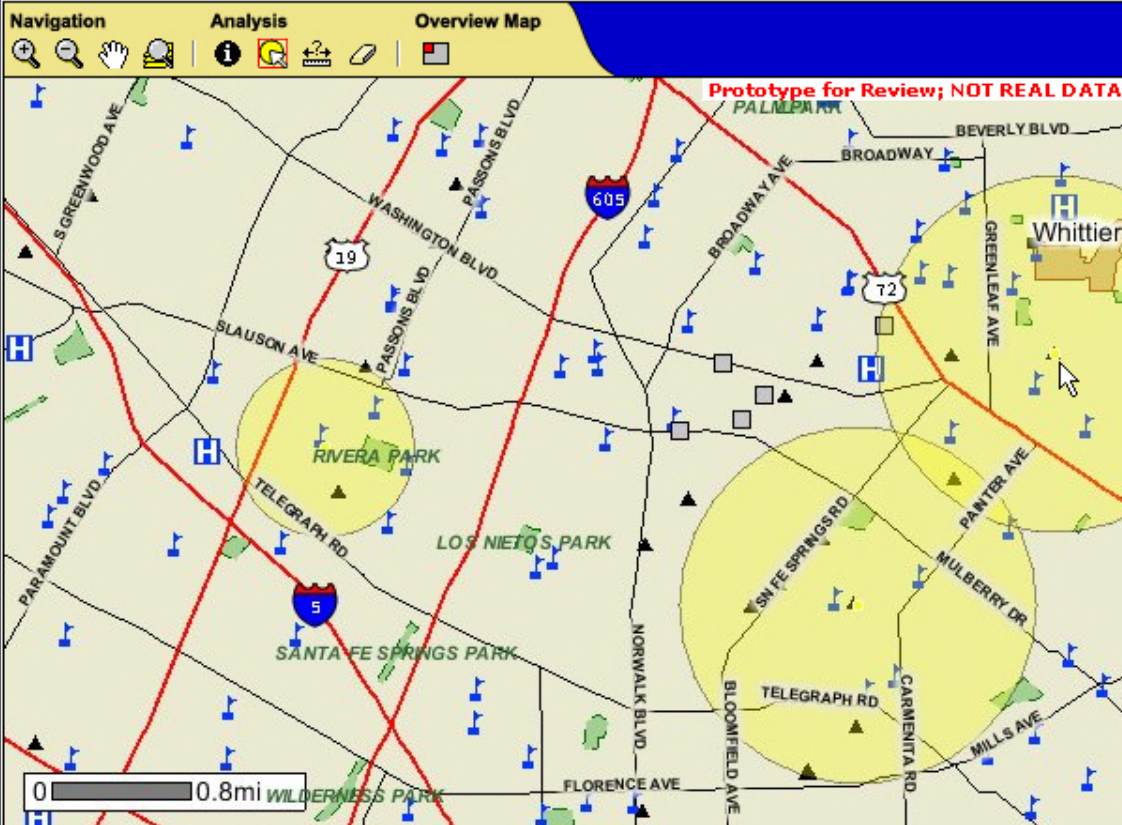
Zip Code:

Go To Zip

NOTE: Displayed data are not real.



Click on the map to create a circular buffer



## Current Settings

Tool Mode: Buffer

County: Los Angeles

## Messages

## Legend / Facilities

Benzene (Lbs./yr.)

- ▲ 0 - 1000
- ▲ 1000 - 25000
- ▲ 25000 - 116920

Show Full Legend

Show Layer List

## Combined Sources

Mobile, Areawide, and Stationary Totals.

Gridded Emissions

Gridded Risk

## Analysis of Sources in Map View

Calculate Stats for all Point Sources in the Map View

Calculate Stats

Print Map

Get Help

Start Page

Select pollutant: Benzene

Clear

Select facility type: Facility Types &amp; SIC Codes

Go

## Map Settings

Identify Layer:

Emissions

Map Tip Layer:

Emissions

Buffer Radius:

1 mile

## Jump to a new location

County/Air Basin/Air District: Los Angeles

Regions: REGIONS

Zip Code:

Go To Zip

NOTE: Displayed data are not real.

California Air Resources Board CHAPIS Community Health Air Pollution Information System

Click or drag a box on the map to **Zoom In**

**Navigation** **Analysis** **Overview Map**

**Map**

**Current Settings**  
Tool Mode: **Zoom In**  
County: Los Angeles

**Messages**

**Legend / Facilities** **Show Full Legend** **Show Layer List**

Benzene (Lbs./yr.)

- ▲ 0 - 1000
- ▲ 1000 - 25000
- ▲ 25000 - 116920

**Combined Sources**  
Mobile, Areawide, and Stationary Totals.

**Gridded Emissions** **Gridded Risk**

**Analysis of Sources in Map View**  
Calculate Stats for all Point Sources in the Map View

**Calculate Stats**

**Print Map** **Get Help** **Start Page**

Map Width: 6.3 miles

Select pollutant: Benzene **Clear** Select facility type: —Facility Types & SIC Codes— **Go**

**Map Settings**

Identify Layer: Emissions Map Tip Layer: Emissions Buffer Radius: 1 mile

**Jump to a new location**

County/Air Basin/Air District: Los Angeles Regions: —REGIONS— Zip Code: **Go To Zip**

Click for a printer-friendly version of this page

NOTE: Displayed data are not real.



# Printer-friendly map version

CHAPIS - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Print the map - Microsoft Internet Explorer

Click on

Navigatic

Print the Map

Choose a title to display on the map

My CHAPIS Map Title

Generate Print Preview

Note:

This form generates a print preview page. To send the page to your printer use the PRINT option, found under FILE on your browser's menu bar. For best results set your page orientation to landscape. To return to the main application after printing your map, simply close the print preview window.

To exit this form press Cancel.

Cancel

ion System

Current Settings

Tool Mode: Zoom In

County: Los Angeles

Messages

Legend / Facilities

Benzene (Lbs./yr.)

- ▲ 0 - 1000
- ▲ 1000 - 25000
- ▲ 25000 - 116920

Show Full Legend

Show Layer List

Combined Sources

Mobile, Areawide, and Stationary Totals.

Gridded Emissions

Gridded Risk

Analysis of Sources in Map View

Calculate Stats for all Point Sources in the Map View

Calculate Stats

Print Map

Get Help

Start Page

Map Width: 6.3 miles

Select pollutant: Benzene

Select facility type: Facility Types & SIC Codes

Map Settings

Identify Layer: Emissions

Map Tip Layer: Emissions

Buffer Radius: 1 mile

Jump to a new location

County/Air Basin/Air District: Los Angeles

Regions: REGIONS

Zip Code:

Go To Zip

NOTE: Displayed data are not real.

Start

CHAPIS - Microsoft Internet Explorer

Print the map - Micro...

10:43 AM



California

Air Resources Board

CHAPIS

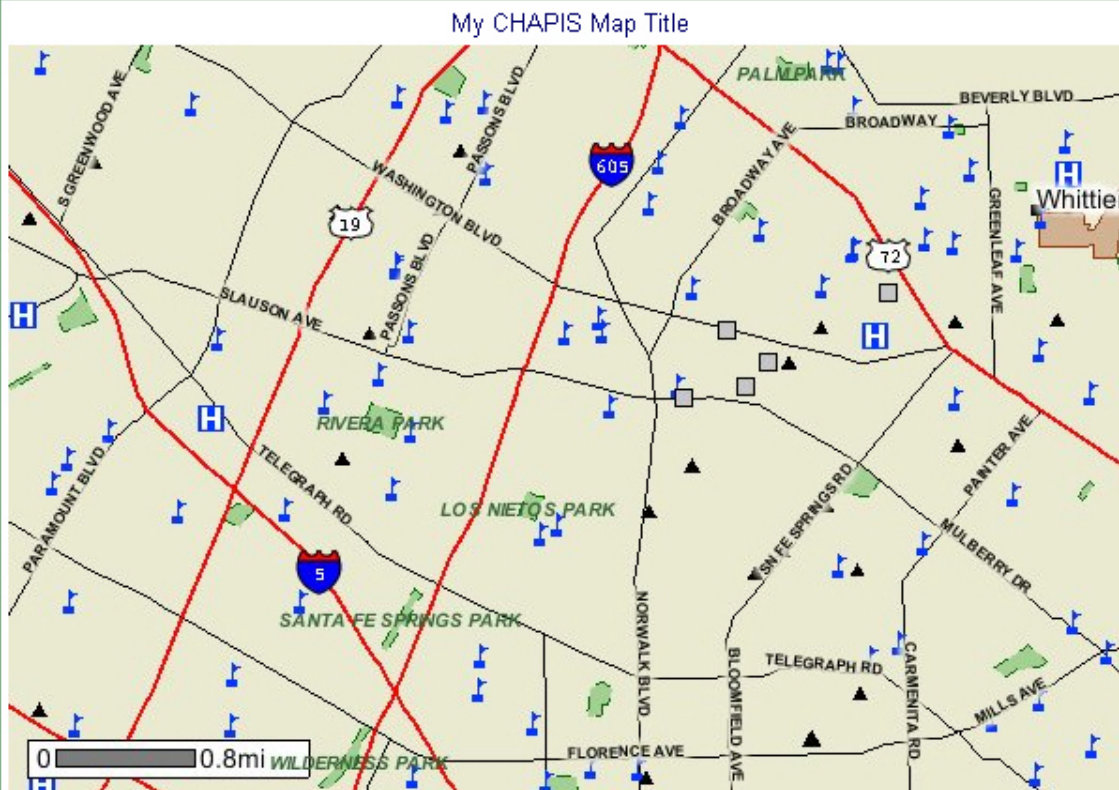
Community Health Air Pollution Information System



Benzene (Lbs./yr.)

- ▲ 0 - 1000
- ▲ 1000 - 25000
- ▲ 25000 - 116920

- Chrome Platers
- Cities
- H Hospitals
- 🚶 Schools
- Air Monitoring Devices
- 🛣 Highways
- 🛤 Roads
- 🌊 Major Water Bodies
- ✈ Airports (Boundary)
- 🌳 Parks
- Landmarks
- 🏫 Colleges and Universities
- 🏭 Military Facilities
- 🏟 Sports Facilities
- 🎡 Theme Parks
- 🗺 Counties



County: Los Angeles

Selected Pollutant: Benzene



Data Source: ARB/PTSD

Print Date: 4/15/2003 10:19

NOTE: Displayed data are not real.



# Can Specify an Industry Category; Grey Out the Rest

California Air Resources Board CHAPIS Community Health Air Pollution Information System

Click or drag a box on the map to **Zoom In**

**Navigation** **Analysis** **Overview Map**

**Map**

**Current Settings**  
Tool Mode: **Zoom In**  
County: Los Angeles

**Messages**

**Legend / Facilities**

- Benzene (Lbs./yr.)
- ▲ 0 - 1000
- ▲ 1000 - 25000
- ▲ 25000 - 116920
- ▲ Non-SIC Sources

**Combined Sources**  
Mobile, Areawide, and Stationary Totals.

**Gridded Emissions** **Gridded Risk**

**Analysis of Sources in Map View**  
Calculate Stats for all Point Sources in the Map View

**Calculate Stats**

**Print Map** **Get Help** **Start Page**

Map Width: 6.3 miles

Select pollutant: Benzene **Clear** Select facility type: 13 - Oil and Gas Extraction **Clear**

**Map Settings**

Identify Layer: Emissions Map Tip Layer: Emissions **Not real data** 1 mile

**Jump to a new location**

County/Air Basin/Air District: Los Angeles Regions: — REGIONS — Zip Code: **Go To Zip**

## Pan Tool

California Air Resources Board CHAPIS Community Health Air Pollution Information System

Pan

Navigation Analysis Overview Map

1) Click to select this map-tool 2) Click or drag map to PAN

NOT REAL DATA

Current Settings

Tool Mode: Pan  
County: Los Angeles

Messages

Legend / Facilities

▲ Facilities

Show Full Legend  
Show Layer List

Combined Sources

Mobile, Areawide, and Stationary Totals.

Gridded Emissions Gridded Risk

Analysis of Sources in Map View

Calculate Stats for all Point Sources in the Map View

Calculate Stats

Print Map Get Help Start Page

Map Width: 6.3 miles

Select pollutant: Toxic & Criteria Pollutants Go

Select facility type: Facility Types & SIC Codes Go

Map Settings

Identify Layer: Emissions Map Tip Layer: Emissions

Not real data 1 mile

Jump to a new location

County/Air Basin/Air District: Los Angeles Regions: REGIONS Zip Code: Go To Zip

1) Click to select the PAN map-tool 2) Click or drag map to PAN

Internet

Start CHAPIS - Microsoft I...

10:59 AM



Click or drag the map to Pan

Navigation

Analysis

Overview Map



Prototype for Review; NOT REAL DATA



Map Width: 6.3 miles

Select pollutant:  Select facility type:  

## Map Settings

Identify Layer:  Map Tip Layer:  Not real data 

## Jump to a new location

County/Air Basin/Air District:  Regions:  Zip Code:  

## Current Settings

Tool Mode: Pan  
County: Los Angeles

## Messages

## Legend / Facilities

▲ Facilities

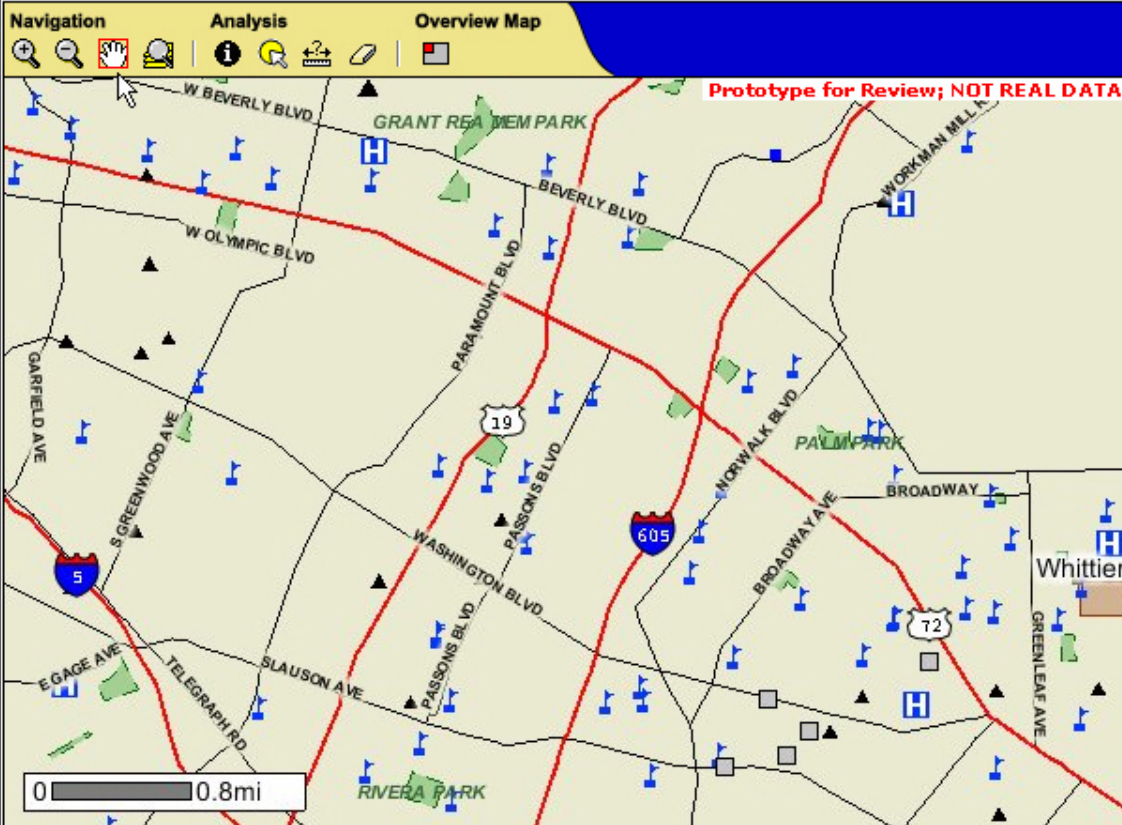
## Combined Sources

Mobile, Areawide, and Stationary Totals.

## Analysis of Sources in Map View

Calculate Stats for all Point Sources in the Map View

Click or drag the map to Pan



## Current Settings

Tool Mode: Pan  
County: Los Angeles

## Messages

## Legend / Facilities

Benzene (Lbs./yr.)

- ▲ 0 - 1000
- ▲ 1000 - 25000
- ▲ 25000 - 116920

Show Full Legend

Show Layer List

## Combined Sources

Mobile, Areawide, and Stationary Totals.

Gridded Emissions

Gridded Risk

## Analysis of Sources in Map View

Calculate Stats for all Point Sources in the Map View

Calculate Stats

Print Map

Get Help

Start Page

Map Width: 6.3 miles

Select pollutant: Benzene

Clear

Select facility type: Facility Types &amp; SIC Codes

Go

## Map Settings

Identify Layer:

Air Monitoring Devices

Map Tip Layer:

Emissions

Not real data

1 mile

## Jump to a new location

County/Air Basin/Air District: Los Angeles

Regions:

REGIONS

Zip Code:

Go To Zip



# "Address-only" Facilities – Info Box with Link

California Air Resources Board CHAPIS Community Health Air Pollution Information System

**Identify**

Navigation Analysis Overview Map

Prototype for Review; NOT REAL DATA

W BEVERLY BLVD GRANT REAL MEW PARK BEVERLY BLVD WORKMAN MILL W OLYMPIC BLVD GARFIELD AVE S GREENWOOD AVE TELEGRAPH RD EGAGE AVE SLAUSON AVE WASHINGTON BLVD PASSON S BLVD NORWALK BLVD BROADWAY GREENLEAF AVE Whittier RIVERA PARK

0 0.8mi

Map Width: 6.3 miles

Select pollutant: Benzene Clear Select facility type: —Facility Types & SIC Codes— Go

**Map Settings**

Identify Layer: Chrome Platers Map Tip Layer: Emissions 1 mile

Jump to a new location

County/Air Basin/Air District: Los Angeles Regions: —REGIONS— Zip Code: Go To Zip

**Current Settings**  
Tool Mode: Identify  
County: Los Angeles

**Messages**

**Legend / Facilities**  
Benzene (Lbs./yr.)  
▲ 0 - 1000  
▲ 1000 - 25000  
▲ 25000 - 116920

Show Full Legend  
Show Layer List

**Combined Sources**  
Mobile, Areawide, and Stationary Totals.  
Gridded Emissions Gridded Risk

**Analysis of Sources in Map View**  
Calculate Stats for all Point Sources in the Map View  
Calculate Stats

Print Map Get Help Start Page

Not real data

# "Address-only" Facilities – Info Box with Link

California Air Resources Board CHAPIS Community Health Air Pollution Information System

Click on the map to **Identify** a feature

Navigation Analysis Overview Map

Current Settings  
Tool Mode: **Identify**  
County: Los Angeles

CHAPIS: Identify Results - Microsoft Internet Explorer

1 feature found

Facility Name	Comments
ABCD Metal Plating	Site-specific emissions not available for Chrome Platers. For information on Chrome Plating risks and actions being taken, <a href="#">click here</a>

Map Width: 6.3 miles

Select pollutant: Benzene Clear Select facility type: —Facility Types & SIC Codes— Go

Map Settings

Identify Layer: Chrome Platers Map Tip Layer: Emissions 1 mile


Jump to a new location

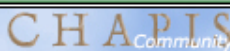
County/Air Basin/Air District: Los Angeles Regions: —REGIONS— Zip Code: Go To Zip

Not real data





## Identify on an Air Monitor Data


 **California** Air Resources Board

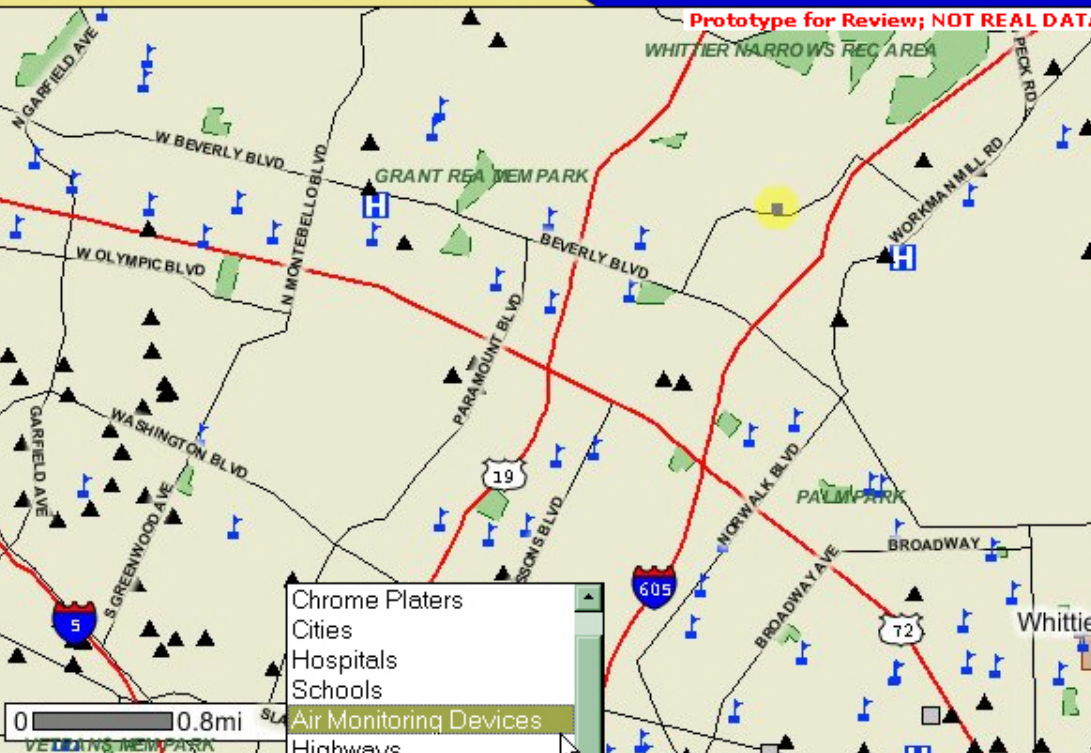
 **CHAPIS** Community Health Air Pollution Information System

Click on the map to **Identify** a feature

**Navigation**  


**Analysis**  


**Overview Map**  




**Prototype for Review; NOT REAL DATA**

WHITTIER NARROWS REC AREA

GRANT REAL MEM PARK

W BEVERLY BLVD

W OLYMPIC BLVD

N MONTEBELLO BLVD

BEVERLY BLVD

PARAMOUNT BLVD

WORMYMAN MILL RD

PECK RD

WASHINGTON BLVD

GARFIELD AVE

S GREENWOOD AVE

NORWALK BLVD

BROADWAY

Whittier

Map Width: 6.3 miles

Select pollutant:

**Map Settings**

Identify Layer:

Map Tip Layer:

Buffer Radius:

**Jump to a new location**

County/Air Basin/Air District:  Regions:  Zip Code:  **Go To Zip**

**Current Settings**

Tool Mode: **Identify**  
County: Los Angeles

**Messages**  
1 feature found

**Legend / Facilities**  
▲ Facilities  
**Show Full Legend**  
**Show Layer List**

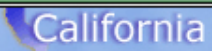
**Combined Sources**  
Mobile, Areawide, and Stationary Totals.  
**Gridded Emissions** **Gridded Risk**

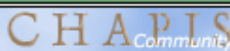
**Analysis of Sources in Map View**  
Calculate Stats for all Point Sources in the Map View  
**Calculate Stats**  
**Print Map** **Get Help** **Start Page**

Select facility type:  **Go**

- Chrome Platers
- Cities
- Hospitals
- Schools
- Air Monitoring Devices**
- Highways
- Roads
- Airports (Boundary)
- Parks
- Landmarks
- Counties

# Prototype Link to Air Monitor Data

**California** Air Resources Board

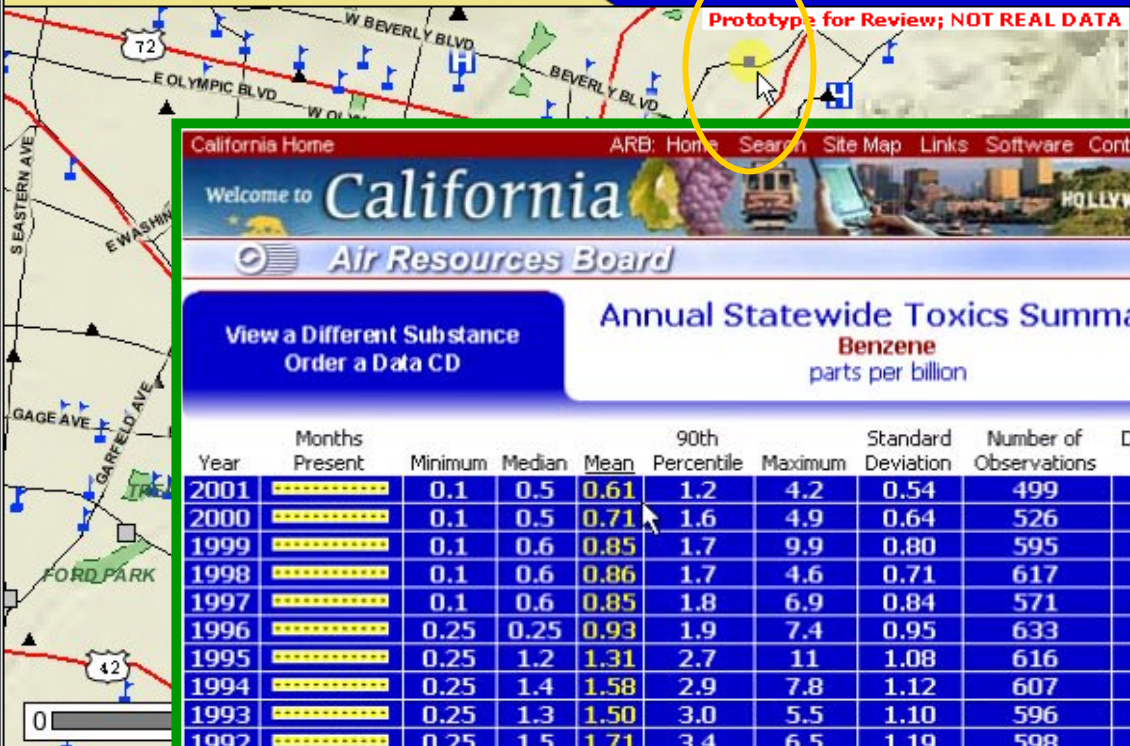
**CHAPIS** Community Health Air Pollution Information System

Click on the map to **Identify** a feature

Navigation

Analysis

Overview Map



**Current Settings**

Tool Mode: **Identify**


County: Los Angeles

**Messages**

1 feature found

California Home ARB Home Search Site Map Links Software Contact Us AGD Home

Welcome to **California**

 **Air Resources Board**

View a Different Substance

Order a Data CD

**Annual Statewide Toxics Summary**

**Benzene**

parts per billion

Year	Months Present	Minimum	Median	Mean	90th Percentile	Maximum	Standard Deviation	Number of Observations	Detection Limit	Estimated Risk
2001		0.1	0.5	0.61	1.2	4.2	0.54	499	0.05	56
2000		0.1	0.5	0.71	1.6	4.9	0.64	526	0.2	66
1999		0.1	0.6	0.85	1.7	9.9	0.80	595	0.2	79
1998		0.1	0.6	0.86	1.7	4.6	0.71	617	0.2	80
1997		0.1	0.6	0.85	1.8	6.9	0.84	571	0.2	79
1996		0.25	0.25	0.93	1.9	7.4	0.95	633	0.5	86
1995		0.25	1.2	1.31	2.7	11	1.08	616	0.5	121
1994		0.25	1.4	1.58	2.9	7.8	1.12	607	0.5	146
1993		0.25	1.3	1.50	3.0	5.5	1.10	596	0.5	139
1992		0.25	1.5	1.71	3.4	6.5	1.19	598	0.5	158
1991		0.25	1.7	2.14	4.3	8.4	1.52	581	0.5	198
1990		0.25	2.2	2.57	4.5	10	1.66	579	0.5	238
1989		0.25	2.3	2.97	5.4	16	2.21	437	0.5	275

Graph It!

Map Width: Select pollutant: Map Setting:

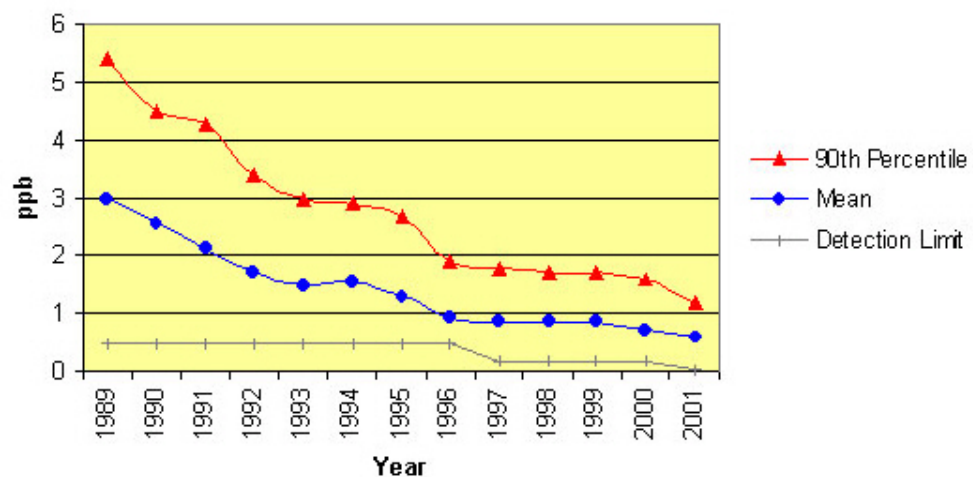
Identify Layer: **Air Monitoring Devices** Map Tip Layer: Emissions Buffer Radius: 2 miles

Jump to a new location:

County/Air Basin/Air District: Los Angeles Regions: — REGIONS — Zip Code: Go To Zip



### California Air Resources Board Benzene



Print

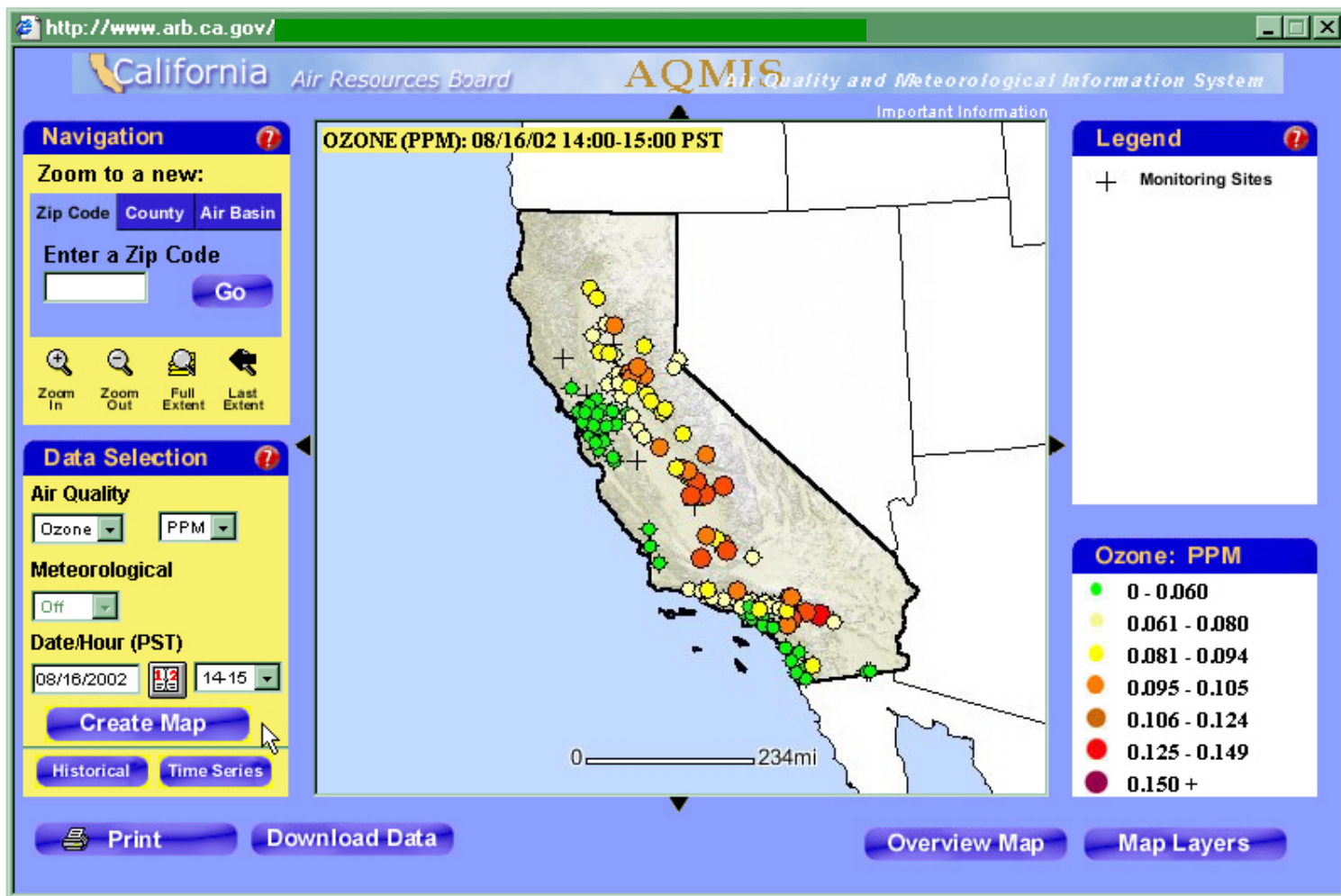
Close

[Toxics  
Statistics  
Home](#)

**Notes:** Values below the Limit of Detection (LoD) assumed to be  $\frac{1}{2}$  LoD.  
Means and risks shown only for years with data in all 12 months.  
Risks shown only for those substances with unit risk factors.

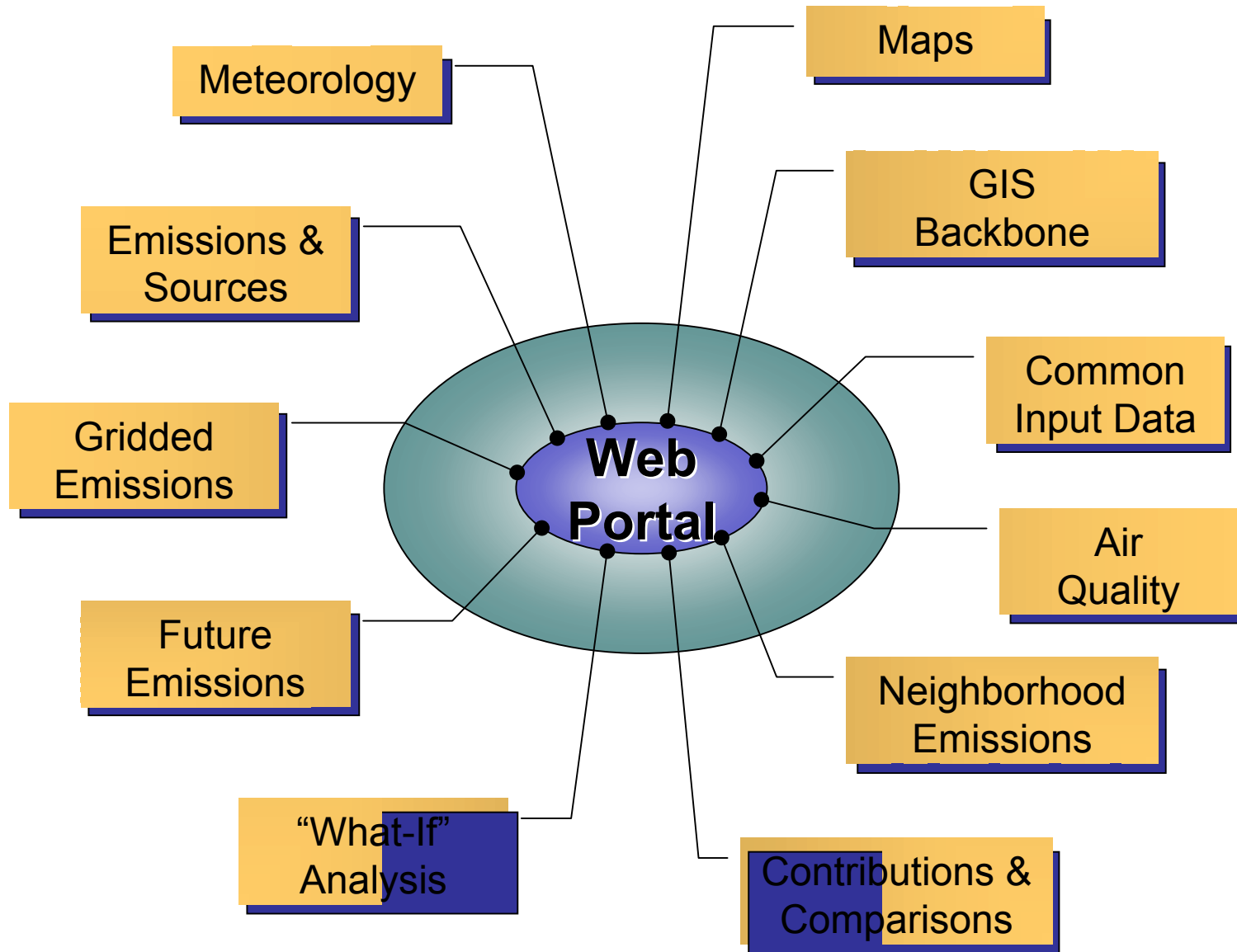
[Data  
Descriptions  
Page](#)

# Future Link to AQMIS: Real-Time Air Monitoring Data Map





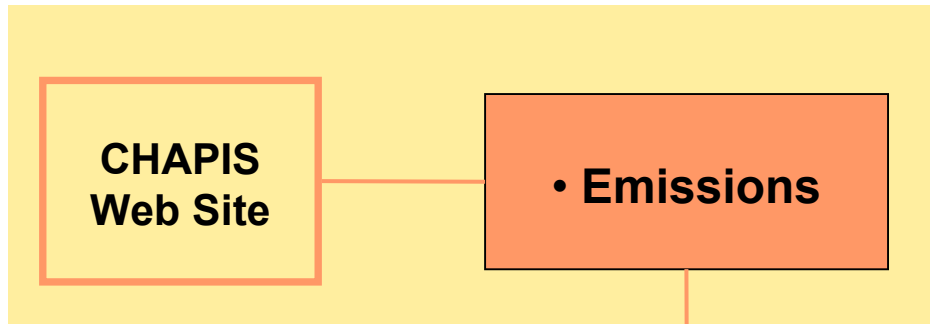
# Vision - Air Analysis Site Capabilities



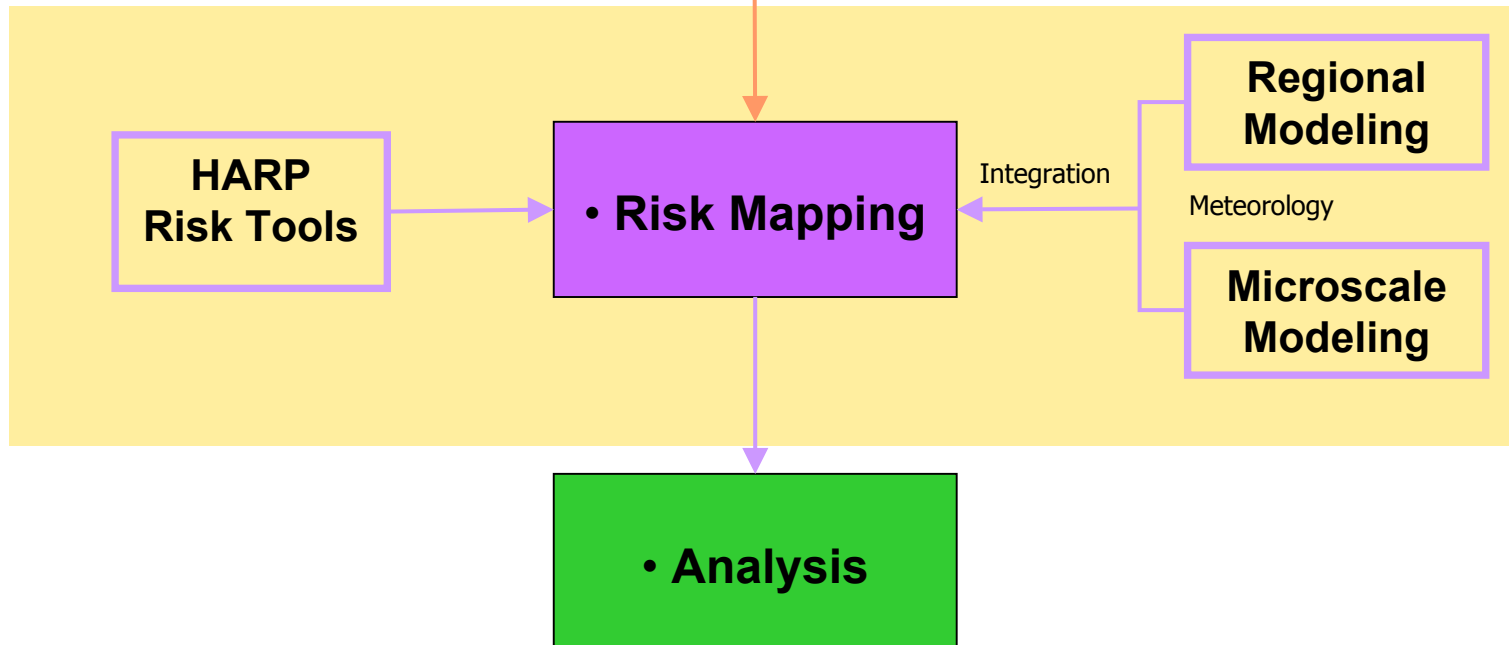
# Air Pollution Impact Assessment

## - Long-Term Tools and Applications -

Phase 1



Phase 2



\* **CHAPIS:** Community Health Air Pollution Information System (web-mapping tool)

\* **HARP:** HotSpots Analysis and Reporting Program (emissions + dispersion + risk modules)





# Combine Regional Grid Modeling + Local-Scale Modeling

---

## ◆ **Regional Grid Modeling is Needed:**

- Photochemistry
- Long-range transport
- Ubiquitous urban background

## ◆ **Local-Scale Modeling is Needed:**

- Near-source peaks
  - Busy roadways; ground-level sources
- Neighborhood resolution

## ◆ **Integration and avoid double counting**



# **Summary: CHAPIS Visualization Tool**

---

- **CHAPIS Phase 1 helps users visualize and analyze emission data spatially**
- **Long-term goal: combine emissions, air monitors, modeling, toxic risk, and other data**
- **Data quality is key**
- **Communicate data -- promote involvement and improve decision-making**



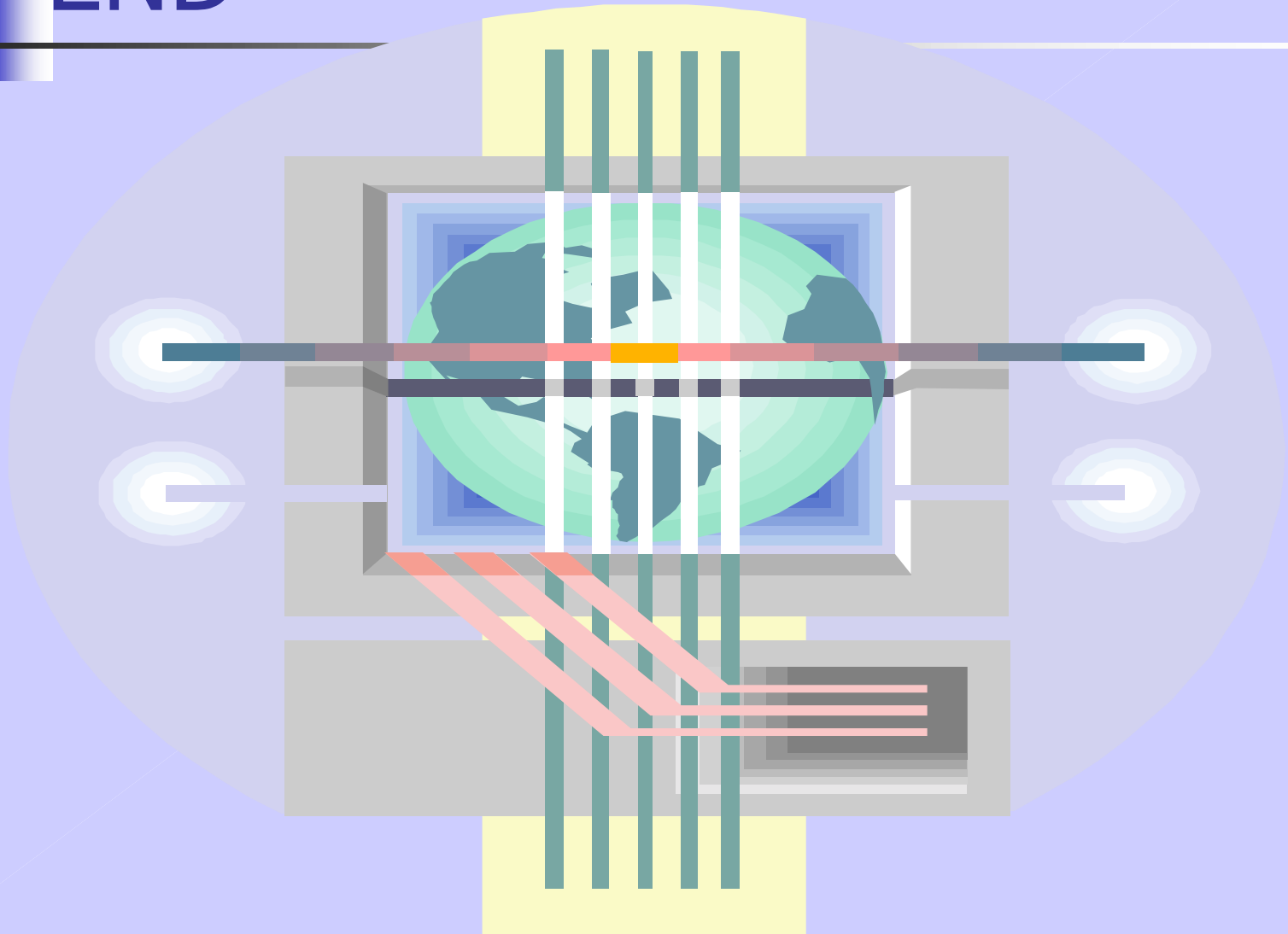


# Acknowledgements

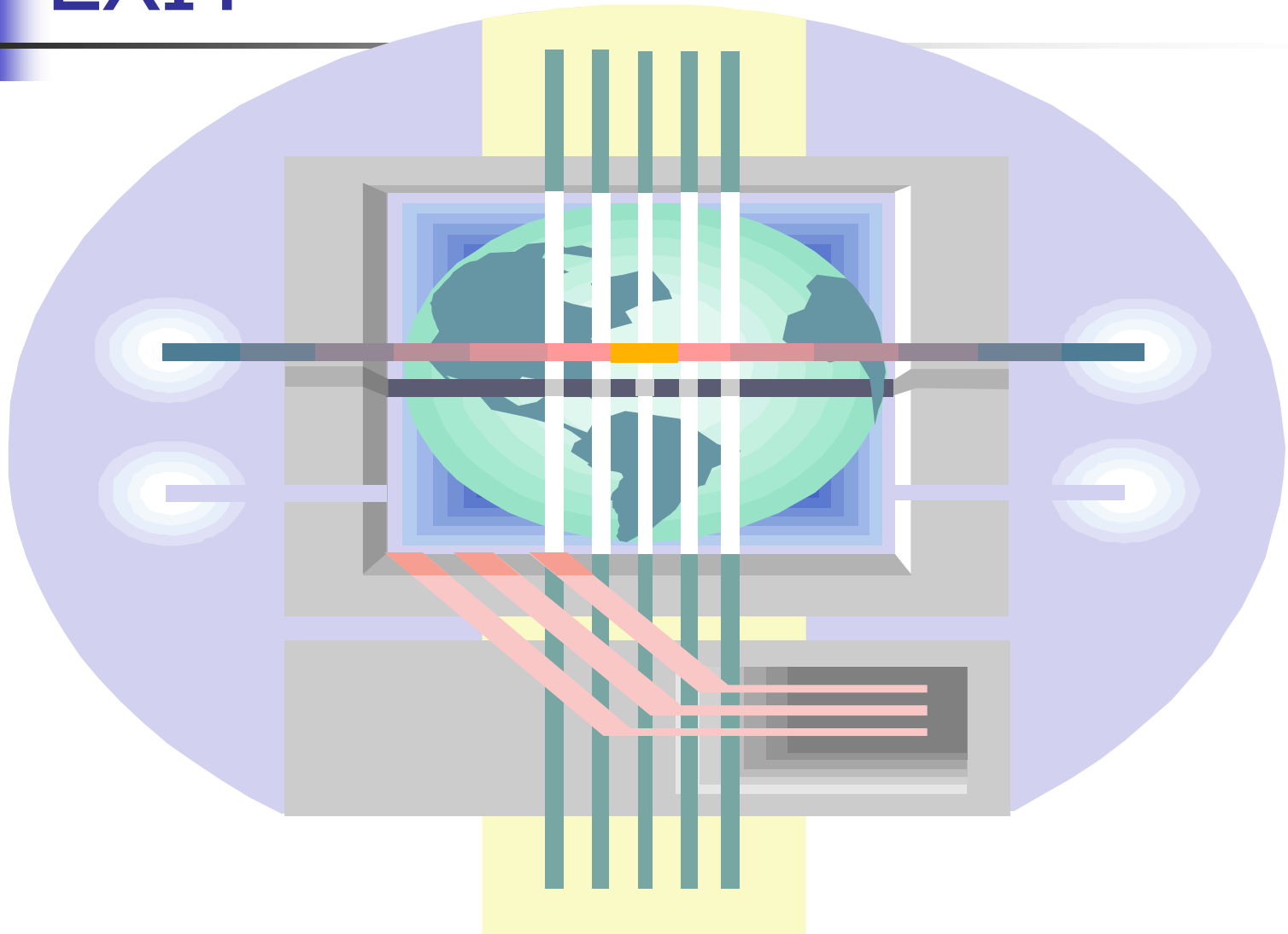
---

- ◆ VESTRA Resources, Inc. – CHAPIS programming
  - David Marley, Mark Smith, Perry Rice
- ◆ Dillingham Software Engineering – HARP program
  - Jeff Dillingham
- ◆ Web page support
  - Desktop Advantage; Chris Halm, ARB

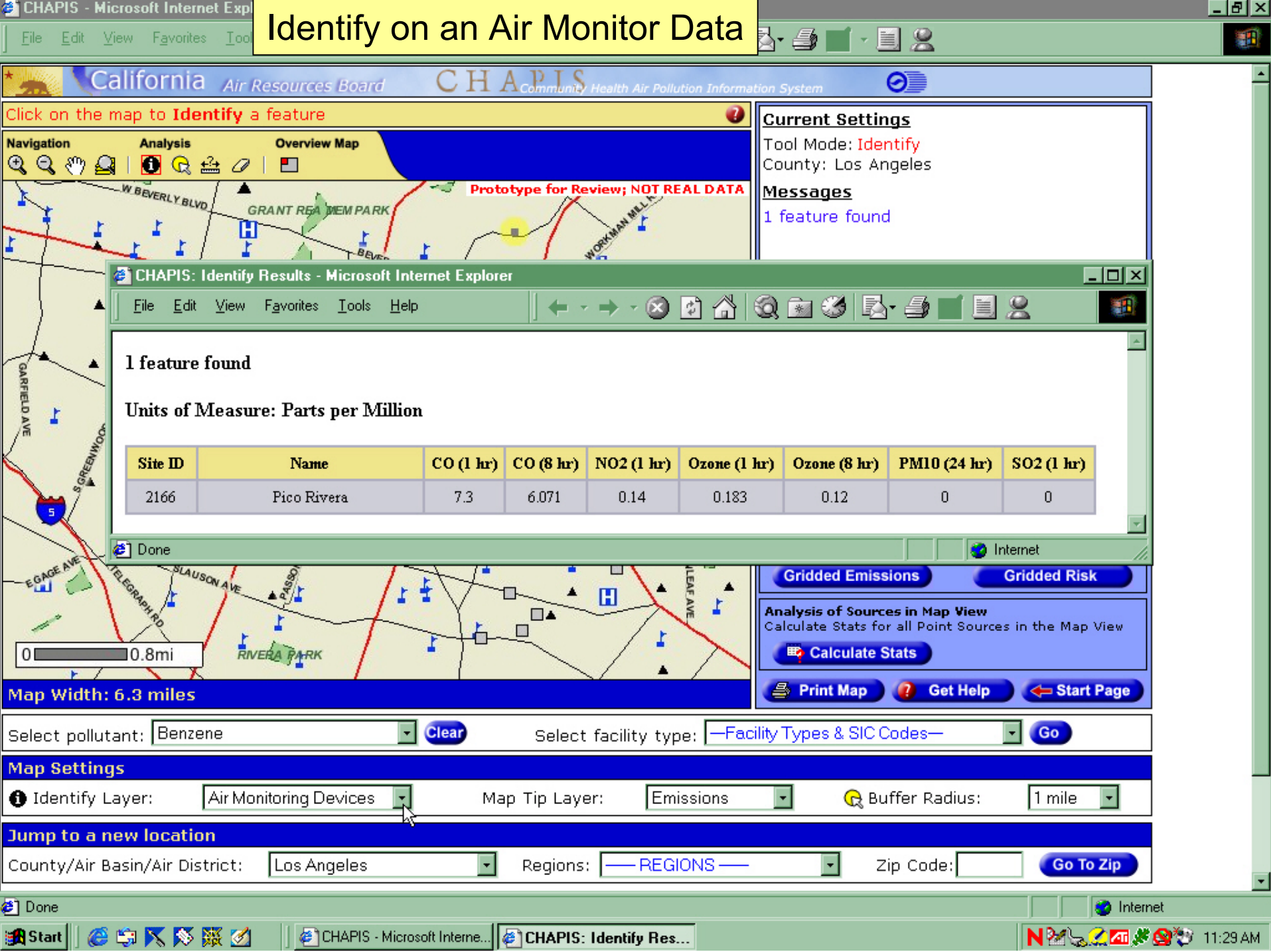
END



EXIT







# Air Pollution Impact Assessment

## Applications and Tools

### *Web-based emission screening tools*

#### Application 1

- Emission Mapping

**CHAPIS Web Site**  
**-- Phase 1 --**  
**Emission Mapping**

---

### *Future Web-based risk screening tools*

#### Application 2

- Statewide Risk Mapping

**Emission  
Inventory**

**Micro-Scale  
Modeling**

**Regional  
Modeling**

Integration

**Risk  
Module  
(HARP)**

**CHAPIS**  
**-- Phase 2 --**  
**Risk Mapping**

Precomputed Risk  
Resolution: 1-4 km

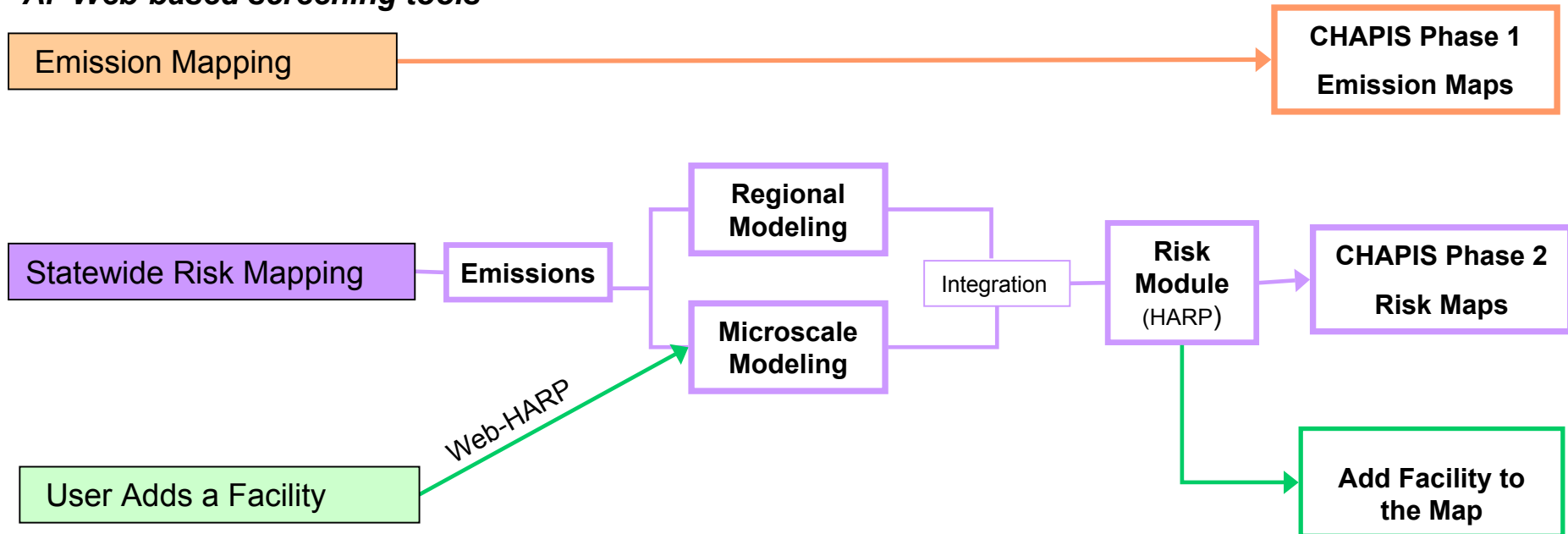
\* CHAPIS: Community Health Air Pollution Information System (web-mapping tool)

\* HARP: HotSpots Analysis and Reporting Program (emissions + dispersion + risk modules)

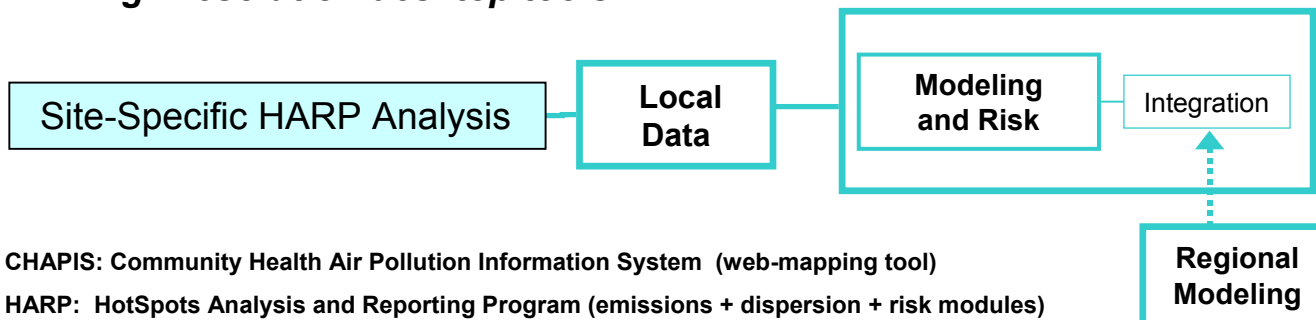
# Air Pollution Impact Assessment

## Applications and Tools

### A. Web-based screening tools



### B. High-resolution desktop tools



\* CHAPIS: Community Health Air Pollution Information System (web-mapping tool)

\* HARP: HotSpots Analysis and Reporting Program (emissions + dispersion + risk modules)

\* Integration and overlay steps use the "HARP Batch Processor" tool



Turn off Gridded and Zoom in further

California Air Resources Board CHAPIS Community Health Air Pollution Information System

Click or drag a box on the map to **Zoom In**

**Navigation** **Analysis** **Overview Map**

**Map** **Prototype for Review; NOT REAL DATA**

**Current Settings**  
Tool Mode: **Zoom In**  
County: Los Angeles

**Messages**

**Legend / Facilities** **Show Full Legend** **Show Layer List**

Benzene (Lbs./yr.)

- ▲ 0 - 1000
- ▲ 1000 - 25000
- ▲ 25000 - 116920

**Combined Sources**  
Mobile, Areawide, and Stationary Totals.

**Gridded Emissions** **Gridded Risk**

**Analysis of Sources in Map View**  
Calculate Stats for all Point Sources in the Map View

**Calculate Stats** **Print Map** **Get Help** **Start Page**

0 18.0mi

Map Width: 64 miles

Select pollutant: Benzene **Clear** Select facility type: —Facility Types & SIC Codes— **Go**

**Map Settings**

Identify Layer: Emissions Map Tip Layer: Emissions Buffer Radius: 2 miles

**Jump to a new location**

County/Air Basin/Air District: Los Angeles Regions: —REGIONS— Zip Code: **Go To Zip**

NOTE: Displayed data are not real.

# Prototype Link to Air Monitor Data

California Air Resources Board

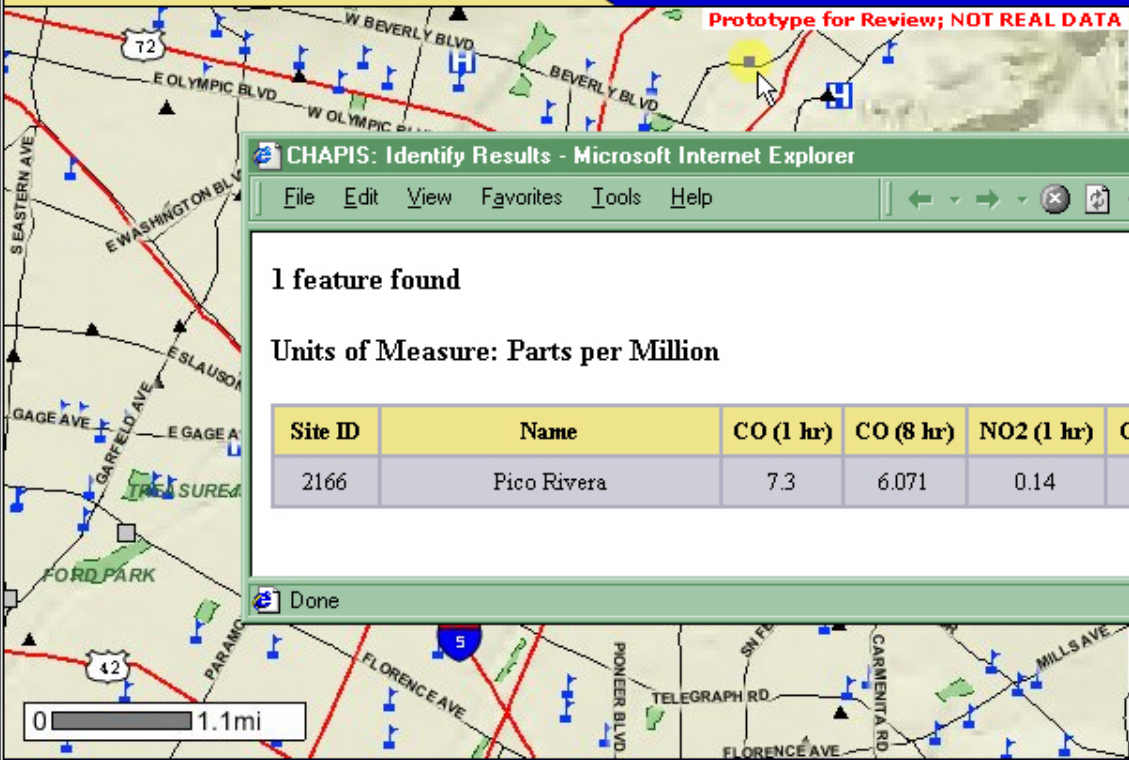
CHAPIS Community Health Air Pollution Information System

Click on the map to **Identify** a feature

Navigation

Analysis

Overview Map



Map Width: 8.8 miles

Select pollutant: Benzene Clear Select facility type: —Facility Types & SIC Codes— Go

Map Settings

Identify Layer: Air Monitoring Devices Map Tip Layer: Emissions Buffer Radius: 2 miles

Jump to a new location

County/Air Basin/Air District: Los Angeles Regions: —REGIONS— Zip Code: Go To Zip

To Write an E-mail with Comments or Questions On CHAPIS:

Start CHAPIS - Microsoft Internet Explorer CHAPIS: Identify Res...

5:20 PM

Current Settings

Tool Mode: Identify  
County: Los Angeles

Messages

1 feature found

CHAPIS: Identify Results - Microsoft Internet Explorer

File Edit View Favorites Tools Help

1 feature found

Units of Measure: Parts per Million

Site ID	Name	CO (1 hr)	CO (8 hr)	NO2 (1 hr)	Ozone (1 hr)	Ozone (8 hr)	PM10 (24 hr)	SO2 (1 hr)
2166	Pico Rivera	7.3	6.071	0.14	0.183	0.12	0	0

Done

Internet

Analysis of Sources in Map View

Calculate Stats for all Point Sources in the Map View

Calculate StatsPrint MapGet HelpStart Page

Not real data



Turn off Gridded, Zoom in.



California Air Resources Board CHAPIS Community Health Air Pollution Information System

Click or drag a box on the map to Zoom In

Navigation Analysis Overview Map

Prototype for Review; NOT REAL DATA

Map Width: 16 miles

Select pollutant: Benzene Clear Select facility type: Facility Types & SIC Codes

Map Settings

Identify Layer: Emissions Map Tip Layer: Emissions Buffer Radius: 2 miles

Jump to a new location

County/Air Basin/Air District: Los Angeles Regions: REGIONS Zip Code: Go To Zip

Current Settings

Tool Mode: Zoom In  
County: Los Angeles

Messages

Legend / Facilities

Benzene (Lbs./yr.)

- ▲ 0 - 1000
- ▲ 1000 - 25000
- ▲ 25000 - 116920

Combined Sources

Mobile, Area-wide, and Stationary

Gridded Emissions

Analysis of Sources in Map

Calculate Stats for all Points

Calculate Stats

Print Map

Show Full Legend

Map Legend - Microsoft...

- Chrome Platers
- Cities
- Airports (Point)
- Air Monitoring Devices
- Highways
- Roads
- Major Water Bodies
- Counties

NOTE: Displayed data are not real.



# Show Layer List (To Turn Layers On/Off)

California Air Resources Board CHAPIS Community Health Air Pollution Information System

Click or drag a box on the map to Zoom In

Navigation Analysis Overview Map

Prototype for Review; NOT REAL

Map Width: 9.4 miles

Select pollutant: Benzene Clear Select facility type

Map Settings

Identify Layer: Emissions Map Tip Layer: Emissions

Jump to a new location

County/Air Basin/Air District: Los Angeles Regions: — REGIONS — Zip Code: Go To Zip

CHAPIS Map Layers List

Refresh Map

Set Layer Visibility

Emissions	<input checked="" type="checkbox"/>
Chrome Platers	<input checked="" type="checkbox"/>
Cities	<input checked="" type="checkbox"/>
Airports (Point)	<input type="checkbox"/>
Hospitals	<input checked="" type="checkbox"/>
Schools	<input checked="" type="checkbox"/>
Air Monitoring Devices	<input checked="" type="checkbox"/>
Highways	<input checked="" type="checkbox"/>
Roads	<input checked="" type="checkbox"/>
Major Water Bodies	<input checked="" type="checkbox"/>
Airports (Boundary)	<input checked="" type="checkbox"/>
Parks	<input checked="" type="checkbox"/>
Landmarks	<input checked="" type="checkbox"/>

Show Full Legend

Show Layer List

Gridded Risk

Start Page

Go

2 miles

NOTE: Displayed data are not real.

# Show Layer List (To Turn Layers On/Off)

CHAPIS - Microsoft Internet Explorer

File Edit View Favorites

California Air Resources Board CHAPIS Community Health Air Pollution Information System

Click or drag a box on the map to **Zoom In**

**Navigation** **Analysis** **Overview Map**

Prototype for Review; NOT REAL DATA

Map Width: 6.3 miles

Select pollutant: Benzene Clear Select facility type:

**Map Settings**

Identify Layer: Emissions Map Tip Layer: Emissions

Jump to a new location

County/Air Basin/Air District: Los Angeles Regions: REGIONS

**Current Settings**

CHAPIS Map Layers Li...

Refresh Map

**Set Layer Visibility**

Emissions	<input checked="" type="checkbox"/>
Chrome Platers	<input checked="" type="checkbox"/>
Cities	<input checked="" type="checkbox"/>
Airports (Point)	<input type="checkbox"/>
Hospitals	<input checked="" type="checkbox"/>
Schools	<input checked="" type="checkbox"/>
Air Monitoring Devices	<input checked="" type="checkbox"/>
Highways	<input checked="" type="checkbox"/>
Roads	<input checked="" type="checkbox"/>
Major Water Bodies	<input checked="" type="checkbox"/>
Airports (Boundary)	<input checked="" type="checkbox"/>
Parks	<input checked="" type="checkbox"/>
Landmarks	<input type="checkbox"/>

Show Full Legend

Show Layer List

Totals:

Gridded Risk

es in the Map View

Start Page

Go

2 miles

NOTE: Displayed data are not real.